

Introduction

MailMan, the Department of Veterans Affairs (VA) Electronic Mail System, is a communications tool which also provides teleconferencing via chained responses. MailMan has become the transport vehicle for all DHCP (Decentralized Hospital Computer Program) applications. MailMan is also used to preserve copies of software and data. MailMan also has the ability to include non-textual data in messages. Network features allow users to construct dialogues for logging-on to remote systems for mail delivery. The latest version has several new features for management. PackMan may be used to load data, software, and packages into messages (see Appendix II -- PackMan). Communications with remote systems may be performed using TalkMan (see Appendix III -- TalkMan). Message actions allow users great flexibility in managing personal mail. Users can address mail to individuals and groups at local and remote sites, with the tedium of waiting for process completion being reduced by the system's background filer. In addition, the system has extensive on-line documentation, which may be printed to create a manual.

Selected messages may be marked for advance transmission. The Postmaster's surrogate may select a group of messages from a queue and mark them for transmission before any other messages in the queue. This is useful when sending a select group of messages, such as payroll, from the Austin queue.

Network transcripts are recordings of what occurs during a transmission. The recording of these transcripts can be suppressed.

The normal method for message transmission is across a network. In addition, mail messages may be moved to a sequential media device, such as magnetic tape, and physically delivered to the destination site. If an important transmission must be sent to the Austin DPC (Data Processing Center), for example, and the Wide Area Network (WAN) is down, a tape could be made and taken to a nearby facility for transmission to a facility where the WAN is up and running.

Messages can similarly be moved between UCI accounts that do not share the same Ethernet connection. System managers may also establish a way to send messages across UCIs on the same CPU even when the UCIs do not share the same manager account. This is especially useful for the transmission of network messages containing routines that should be installed in a particular UCI. The %ZISL global, a preexisting manager account global, is used for this purpose; it holds the new Inter-UCI Transfer file (#4.281). The ^%ZISL global must be translated to allow inter-UCI message transfer, so it is recommended that ^%ZISL be translated between any UCIs where such transfer would be appropriate. The sequential media transmission capability, described above, is made possible by this mechanism and can be used in conjunction with Host File Servers (HFS) and Sequential Disk Processors (SDP).

To facilitate WAN and other network connections, transmission scripts may include new features of the LOOK command to terminate a script or transfer control to another part of the script.

Three site parameters have been provided to limit the copying of long messages that have many responses or recipients. This feature has been introduced to prevent users from consuming system resources by repeatedly copying long messages with many responses or recipients.

System managers can add partial or full names and/or domains to the Network Senders Rejected file (#4.501). When Network Mail receives a message from a sender whose name@domain contains such a string, that sender will be rejected. An example of this would be if "Listserv" were in File 4.501, all messages from senders containing "Listserv" (such as "AListserv@Dartmouth.EDU") would be rejected. This feature can be used to lessen the number of messages coming into the system from a remote site.

A new option called Forwarding Address Edit has been added to MailMan's Other Options menu as a way of controlling network traffic by restricting the use of forwarding addresses. It is locked with the XMNET security key. System managers may remove this key from the option specification if they do not want to limit the use of forwarding addresses.

The regular background mail purge, XMAUTOPURGE, may be set to run without the associated error checking to save processing time. A new site parameter controls whether the checker, XMUT-CHKFIL, will run in conjunction with the purge.

A new on/off toggle switch site parameter controls whether transmission transcriptions will be collected.

This Technical Manual and Systems Management Guide provides sections on:

- **Setting up MailMan and TCP/IP (including installation and maintenance information)**
- **TCP/IP Poller**
- **System manager menus and options**
- **Network management**
- **PackMan**
- **TalkMan**
- **Kernel site parameters**
- **MailMan integrity checker**
- **Fine tuning MailMan**
- **MailLink program (including the Remote User Directory)**
- **MultiMedia mail**
- **MailMan script processor**
- **Distribution lists**
- **Network Mail validation numbers**
- **Statistics in MailMan**
- **P-Message device set up**

These sections provide pertinent information, along with examples, that will allow system managers and programmers to effectively implement, support and maintain MailMan's new TCP/IP functionalities and enhanced TCP/IP Poller features.

New Management Features in MailMan 7.1

New and/or enhanced features of MailMan now found in Version 7.1 are briefly described below. These and other management features are fully described under the Exported Menu Options section of this document.

Multiple Site Configurable Background Deliverers

Instead of one background filer, there can be as many as a site decides to have. Each background filer delivers messages or responses by ranges of recipients. There is also a separate job that processes "Later'd" messages.

TalkMan can Send and Receive files Using Kermit

TalkMan can send and receive files from various systems using the Kermit protocol.

Script Error Message Command

This command establishes the text to be displayed if the script fails. This allows the script writer to return a message if the script fails subsequent to this command.

The error message is in effect until another error command is issued. In order to cancel an error message, enter an error command with no message.

Records Date Recipient First Read Message

MailMan now records the date and time that recipients first read a message. This data never changes. MailMan continues to record the date and time a recipient last read a message.

Bulletins Automatically Produced for Undeliverable Mail

Users are able to forward their mail to a forwarding address. If the forwarding address entry is a valid MailMan address, the user's mail will be delivered. If the forwarding address is incorrect, MailMan automatically sends a bulletin to the Postmaster warning of undeliverable mail.

Bulletins From the Postmaster are Information Only

The MailMan Postmaster generates messages and bulletins to system users. These are for informational purposes only and responses are not allowed.

Local Mail Delivery Statistics

Statistics can be recorded on how many messages were sent to how many recipients, response time, lines of message text displayed (and printed), how long the delivery queues are for the background delivery processes, and how many users are on the system each half-hour interval of each day.

Integrity Checker More Descriptive

MailMan's integrity checker will ensure that all the cross-references are correct. This is important. It is therefore run each time Autopurge is invoked. If a system crashes in the middle of a MailMan delivery or other operation that involves mail baskets, the operation may leave partial information. Many of these problems are automatically corrected by the integrity checker.

Runs in Much Smaller Partitions even with Large Mail Group

Recipients that a message is addressed to are now recorded in a temporary disk array so that even large mail groups do not effect the amount of local partition space used during run time.

Bulletins to Holders of Large Mail Baskets

For disk management purposes, bulletins may be sent requesting users to clean out mail boxes if they have too many messages.

Bulletins may be Sent to Owners of Many Messages

MailMan's Postmaster now sends a bulletin requesting the purging of unwanted messages to owners of many messages. This helps system managers to properly maintain the system.

IN BASKET PURGE Can be Run Across all Baskets

THIS OPTION MAY BE RUN VIA THE TASKMANAGER !

This option purges IN Baskets in two steps:

- 1. In the first step, messages are sent to users.**
 - a. The message will contain a list of messages to be purged in step two.**
 - b. The message will contain a list of actions that will prevent the purging of the listed messages.**
 - c. The message will state how many days later the listed messages will be purged unless the action is taken on a message by message basis.**
 - d. The messages listed will not have been referenced for 30 days or the number of days in the Kernel Site Parameters file field MESSAGE RETENTION DAYS if the field is not null.**
- 2. In the second step, the messages listed in the message from Step 1 will be purged not less than 30 days later unless they:**
 - a. Have been saved into a basket other than the IN basket**
 - b. Have been referenced (read or printed) otherwise**
 - c. Are marked as NEW**

Report of Messages and Baskets per User Shows Last Sign On

MailMan can report the number of messages and the number of mail baskets a user has, and displays the date and time the user last signed onto the system.

Site Parameter Number of Messages Not to Purge

Local site parameters may be set NOT to purge specified messages. See the Site Parameters section of this manual for implementation of local specifications.

P-Message Device Allows Users Input of Subject

The P-Message device allows the printing of messages to the terminal and allows users to enter a subject.

Basket Creation Assigns Previously used Basket Numbers

When a basket is emptied of messages and the user deletes it, an empty slot is left in the list of mail basket internal numbers. MailMan previously ignored this. Now the numbers are reused when new baskets are created.

Network Management Features

Transmitting information over a network is an involved and complicated process. Over the years the physical media over which information is transmitted has changed, but the basic premises of MailMan's use of the standards and integration with the Decentralized Hospital Computer Program (DHCP) remain constant. Version 7.1 of MailMan brings to the DHCP environment the ability to transmit MultiMedia messages (messages with images and other non-textual parts) across our network.

The Department of Veterans Affairs communications network, MailMan Version 7.1, is now in place. It is used for interpersonal communications and for the transmission of data to the Austin Automated Data Processing (ADP) Center. Endorsement of this specific functionality has been granted by associated review organizations. This manual provides information for using the VA Network MailMan package.

Guidance is available in the following areas:

<u>Capabilities</u>	<u>Specifics</u>
Tuning Network MailMan	<ul style="list-style-type: none">• Parameters for tuning• Using different protocols
Establishing Connectivity with other Domains	<ul style="list-style-type: none">• Writing scripts to establish connections• How to add and maintain entries to your Domain file
How to read Network Header Information	<ul style="list-style-type: none">• Where did the message originate?• What route did it take?
Troubleshooting Network MailMan	<ul style="list-style-type: none">• Common problems and solutions• Network Security (validation numbers)• When to contact specialized experts

New Features in Network MailMan V. 7.1

MultiMedia Mail

MailMan introduces the new capability to attach Binary Large Objects (BLOBs) to electronic messages so that images, spreadsheets, graphs, and other operating system files that are not pure ASCII text, may be sent and received locally and across the network. This is known as MultiMedia Mail. MultiMedia Mail users will require special terminals and other hardware peripherals to fully use all the functionalities.

When using an imaging workstation, a user can view images that are linked to a message on a second screen. This works using standard calls to the API of the imaging product. Images are brought off a file server on the local area network via ethernet and displayed. Network transmissions of messages are performed from a platform that has both NFS capabilities and TCP/IP. Images are delivered off the file server that is on the local area network into a directory that is mounted via NFS onto this platform, again by a call to the imaging API. The relationships of MultiMedia HARDWARE must be set up correctly.

The network transmission works by sending a message first. During the exchange of message protocol data units, information is exchanged about the BLOB that is going to be sent via FTP. The sender indicates that there is a BLOB to send. The receiver replies with the IP address to send the message to and the directory to put it in. The sender then constructs a series of commands that will access the FTP software running on that machine, stores it as a file that can be executed in batch mode and puts an entry in a MUMPS global to indicate that the file needs to be executed. A background process in MUMPS (XMRTCP) polls this file every few seconds and when it sees an entry, it makes a request to the imaging API to move the appropriate image into the export directory. When the image is in the export directory the aforementioned file is executed and the image is FTP'd to the receiver of the message.

Network Delivery Statistics

Network mail sending and receiving transmission data such as, number of characters and lines, and number of messages are kept on a monthly basis in the Network Statistics file #4.2998.

Script Error (E Command)

System managers can set an error message with an "E" command in the transmission script. The error message will tell users what kind of problem occurred if the transmission was not successful.

Receive NETMAIL from Unknown Domain, if Subdomain of Known Domain

A domain is a location where network messages can be sent. Domain names and synonyms are kept in the Domain file at each location. Entries in this file are usually created via INITs from a production MailMan UCI from the same site, or one close by.

Before sending a network message, learn the correct domain name or synonym of the remote site. The Domain file can be searched or the remote site can be contacted. Currently there is no look-up of domain names during the MailMan addressing procedure.

The MailMan initialization creates a Postmaster to handle network mail. The Postmaster is automatically created in the User file with a user number of .5, and in the Mail box file with an "arriving" mail box queue.

Network messages may also be sent to subordinate domains and may use parent domains or relay domains for transmission.

Allow Site to Reject Network Mail from Particular Senders in the Network Senders Rejected file (#4.501)

System managers can create a list of senders from whom messages will be rejected. This list contains domain names and users of particular domain names. Therefore, it allows sites to reject all messages that are transmitted from a domain, from a person at a domain, or from any domain that is a subdomain of a particular domain.

Case Sensitive Message Fields from Network Receptions

Upon receiving network mail, the original form of the senders e-mail address is preserved in the message header. This ensures that replies to the message will always be deliverable.

Faster NETMAIL Transmission Speeds using TCP/IP Channels

The advantages of using TCP/IP channels are that TCP/IP channels are very fast and require no application level error checking. The error checking done at the physical layer of the protocol is CRC-16, which is much better than what is currently used at the application layer (usually LPC). TCP/IP channels are also relatively immune to flow control problems. This method of message transmission and reception is faster, free from error, and more dependable. It is also a major protocol (the Internet protocol).

Users may Create their Own Network Mail Name

The user can assign a name to his mail box on this system. The name is guaranteed to be unique for each user.

The Mail name is used as the return address when you send a message to someone whose mail box is in a different mail environment. It could be different machines in the same facility, an entirely separate facility, or simply a different configuration (or UCI) on the same machine.

The valid format for a mail name is one that is acceptable to all mail systems. The name must contain 7 and 30 characters with no punctuation (except for no more than 2 periods, each of which must be preceded and succeeded with at least one alpha or numeric character).

Forwarding Addresses Automatically Verified

When forwarding a message, MailMan will automatically verify the forwarding address. You will receive a "NOT FOUND" message if you try to forward to a user that is not found in the local domain New Person file. You will receive a "DOMAIN NOT FOUND" message if you try to forward mail to a user at a domain name that is not found in the Domain file.

Directory of Remote Recipients (MailLink) Expanded

The Remote User Directory file (#4.2997) contains a list of names and addresses of remote users. When sending mail to a remote user, you do not have to remember their e-mail address. Further discussion of the Remote User Directory may be found as part of Appendix VII -- MailLink Program in this manual.

Directory Information of Remote Recipients

Users can now inquire about remote user information by entering remote user's location, mail code or remote user's last name at the "Send mail to:" prompt.

Answering a Message (Internet Style)

An "Answer" is different from a "Reply" in both format and actions taken. An answer is sent only to the sender of the original message and to recipients you explicitly address your answer to. An answer is very much like a new original message. However, in addition to the text that you type in, the answer also adds two more features to the message.

First it copies the original message into your answer text. Then it appends your network signature to the end of the answer.

You must have entered a network signature in the Edit User Options in order to answer a message.

Size Limit of Network Transmission

System managers can now limit the maximum number of lines in any received message. System managers can also control the maximum number of lines per message for transmission by editing Field #8.3 of the Kernel Site Parameters file.

Orientation

Information found in this section should be read in its entirety to fully familiarize yourself with VA DHCP Mail System. This manual further explains more technical issues for implementation and the uses of all the unique and powerful utilities of MailMan.

MailMan is designed to allow users to send and receive mail from individuals or groups either locally or over the network. Users can also access the newly available Remote User Directory. Discussion related to the Remote User Directory can be found in Appendix VII of this manual.

MailMan has many on-line help frames, commonly used system default prompts, and bulletins. Users are strongly encouraged to enter a question mark at any response prompt. This is an easy way to learn about any aspect of MailMan. At the end of the help display, you are immediately returned to the point from which you started.

Related Manuals

The Technical Manual/Systems Management Guide, Release Notes/Installation Guide, and the Programmer Reference Manual give technical information needed by system managers and IRM staff for maintaining the package. They explain how to implement and maintain many special programmer features, including the API and networking modules in MailMan. The Package Security Guide outlines security requirements. The Network MailMan Reference Manual deals with both the user and the system manager information for using MailMan on a network system. The Mail Man User Manual explains how to use the MailMan options that are available to the general user.

Refer to this Technical Manual and System Management Guide for information on transmission, device testing, and many unique features. Appendixes discussing these and other special features are provided in this document. The VA Kernel and VA FileMan manuals should also be referenced.

VA FileMan

A knowledge of general VA FileMan is all that is required to use MailMan. FileMan menus present the viewer with information, and then give the user an opportunity to make a selection based on the information, through the use of a message prompt. Most prompts require the entry of "Y" for yes or "N" for no. If yes or no is contained within the prompt, as in "YES//", entering a return (<RET>) selects this response.

Text may also be entered at message prompts. A (<RET>) must be entered following the text in order for the computer to accept the information. If you wish to skip a prompt, just enter <RET>. If a keyword is being entered at the prompt, only the first four letters need to be entered, as FileMan recognizes the entire keyword from the first four letters.

If there is more than one selection for an entry, a list of all possible selections either appears or can be solicited by entering a "?". The viewer can enter leading characters of the name or the list number of a selection. All of the entries, with the exception of question mark subject searches, can be entered in either upper or lower case.

On-Line Help

One of the more useful features of MailMan is the extensive system of on-line help frames. To access the frames while working on the system, use the names of the "keywords" or reference words, for the frames. For example, in the User Help frame, enter the desired keyword at the "Select Message Action" prompt. If additional information is required, the user may return to the User Help frame by entering a carriage return at the message prompt, or entering keywords (highlighted in the particular text) at the "Message Action" prompt.

The frames themselves are grouped according to function. The lead frame for a function contains the keywords for linking to related frames.

Implementation and Maintenance

Package Management

MailMan allows users to send, receive, copy, respond to, and organize electronic mail. It has entry points to allow other applications to trigger bulletins or send messages without user intervention. There is a communications facility (TalkMan) to allow users to automatically hook into the VA Wide Area Network (WAN) or modems. This feature connects the user to a remote domain, playing the script to that domain without displaying it to the user. It then informs the user that the connection was successful, and can capture whatever has been displayed to the user's terminal into a message called DIALOGUE CAPTURE.

An extended search for messages may be invoked at the "Message Action" prompt, or as a stand-alone option. The extended search includes filters on the sender and the date sent.

MailMan informs users of network delivery failures and their causes. Message characteristics including Closed, Confidential, Confirmation Requests, Information, and Scrambling may be carried across the network. Package security information for PackMan may also be conveyed on the network.

MailMan allows the transfer of any word processing text from any FileMan file or message into a message or response. New documents are placed in a user's IN basket.

The Postmaster

The MailMan installation automatically creates a special user (DUZ=.5) called Postmaster, and Postmaster mail baskets. Persons assigned to the management of MailMan and Network mail at a site must be entered in the Kernel Site Parameters file as surrogates of the Postmaster and given Read and Send privileges. A person **must** sign on as himself and then assume the Postmaster's identity for performing Postmaster management tasks.

The Postmaster has mail baskets, and can send and receive messages like any other user. In addition to the IN Basket and Waste Basket, the Arriving Basket is also automatically created for the Postmaster. All mail for a site automatically comes to the Arriving basket from which it is then routed to the individual recipients. The Postmaster may examine the header information of messages, but may not read the text of the message.

Network transmission failures are reported to the Postmaster via bulletins to the Postmaster's IN box. These bulletins should be purged once the problems have been resolved. The Postmaster also needs to check the Arriving basket for purging.

The Postmaster has special Domain baskets (i.e., Birmingham, Dallas, etc.) which are numbered greater than 1000 and are used for the transmission of network mail. Network mail from a site goes to the appropriate Domain basket (queue) prior to transmission. Occasionally the Postmaster may need to stop networked message from going out. This is done by:

1. Deleting the message number from the Postmaster's Domain basket. If a message is deleted from a basket, it is deleted from a queue.
then
2. Using the RJD Kill off User's Job option to kill transmission of the message to the domain.

The Postmaster also may need to broadcast messages to users. To do this:

1. Send the message to the Postmaster.
2. Assume the identity of the Postmaster.
3. Copy the message into a new message and edit any information that is not appropriate for broadcasting.
4. At the "Send to:" prompt, enter *.

Menu Structure

MailMan is accessed from 3 sets of menus: XMUSER, XMMGR, and XMNET. XMUSER includes the commonly used functions of electronic mail. It also contains some very powerful tools for the individual using MailMan. The most commonly used functions are at the top of the hierarchical structure. Help features are contained in a separate submenu, as are the tools. XMUSER can be used independently and may be installed on menus of other packages for distribution.

XMMGR includes options and utilities that are useful for system management. The options for maintaining the local mail system are contained here.

XMNET contains options that are used for managing the network side of MailMan. While the local system requires only some initial set-up, the network side must be periodically monitored. The options under XMNET for displaying the queues in various fashions are useful for this purpose. The network sometimes needs to be flushed. Options for polling and queuing are provided for this purpose. Sometimes non-delivery of network mail requires investigation. The options for testing a network device and playing scripts are useful in these instances.

Users should read the MailMan User Manual, MailMan Programmer Reference Manual, and MailMan Network Management Reference Guide in order to acquire a good idea of the various functions and their power. On-line help frames are also accessible.

Maintenance

There are several ways to keep the amount of messages stored at a minimum. MailMan provides the Disk Space Management Menu options for this purpose under the Manage MailMan main menu

XMAUTOPURGE is generally run after XMCLEAN (the waste basket cleaner) for automatic purging. It will purge any messages that are not pointed to by any recipients or the sender. XMPURGE can also be run to purge messages that have an origination date older than the date used to initiate the process. Users are notified by a Postmaster bulletin of the proposed purging date, so that they can save important messages. These are the only options that actually kill off entries in the Message file (#3.9).

Namespace Conventions

The namespace for MailMan is XM. All routines and globals used in MailMan start with XM, except for some which are shared, located in the DI and XU namespace.

Variables used homogeneously throughout the package include DUZ, XMDUZ, and XMZ. Refer to the MailMan Programmer Reference Manual concerning programmer entry points for additional information.

Security Keys

MailMan uses security keys for a number of purposes. The XUPROGMODE key is used to allow access to PackMan features and to control a version of prototype "Answering" of network mail. The XMTALK key is used to control access to the TalkMan features, allowing users to connect to remote computers via network mail scripts. The XMMGR and XMNOPRIV security keys are used to control privileges in the Shared, Mail feature. There can also be keys on domains in the Domain file (#4.2). Any domain containing FOC-AUSTIN.VA.GOV or Q- should have keys.

The MailMan security check involves comparing a message with what is on the disk and ensuring that the message security has not been altered. The security check of a message against its checksums is part of the installation process. DUZ(0)="@" is not necessary to compare, summarize, or "pretty print" a PackMan message. DUZ(0)="@" is necessary for the routine and global load process and to do an installation (after the security check).

Install/check functions are resolved by the installer and the security checker both, using the same option, but the security checker does not get to do the installation. To access PackMan, a user must hold the XUPROGMODE key. DUZ(0) must equal "@" in order for PackMan messages to be created or installed.

Controlled Procedures

All files, fields and routines in this package are considered to perform controlled procedures and may not be modified.

Legal Requirements

There are no legal requirements associated with this package.

Files

MailMan has 30 associated files, with file numbers ranging from #3.2 through #4.6 including relations with other DHCP files.

Terminal Type file (#3.2)	Internet Suffix file (#4.2996)
Communications Protocol file (#3.4)	Remote User Directory file (#4.2997)
Device file (#3.5)	Message Delivery Stats file (#4.2998)
Spool Document file (#3.51)	Message Statistics file (#4.2999)
Spool Data file (#3.519)	MailMan Time Zone file (#4.4)
Conversion of Device file (#3.52)	Network Transaction file (#4.5)
Resource file (#3.54)	Transmission Script file (#4.6)
Bulletin file (#3.6)	Kernel Site Parameters file (#4.3)
Mail Box file (#3.7)	Option file (#19)
Image file (#2005)	New Person file (#200)
Mail Group file (#3.8)	Message file (#3.9)
Distribution List file (#3.816)	Inter-UCI Transfer file (#4.281)
Domain file (#4.2)	Message to be New at a Later
MailMan Outstanding FTP	Date file (#3.73)
Transaction file (#4.2995)	

Descriptions of these files and all related security keys associated with them may be found in the File List section of this manual. Other pertinent file information, such as data dictionaries and relations with other files may be generated on-line through the use of FileMan utilities.

In order for MultiMedia MailMan to work properly, sites must also have access to the Image file (#2005) and the Network Location file (#2005.2).

Globals

The ^XMB, ^XMBPOST, ^XMBS, ^XMBX, ^XMD and ^XMZ are MailMan namespaced globals that store data contained in all the files referenced above. MailMan also stores data in the ^DIC and ^%ZISL globals. Journalling is highly recommended.

Your translation table must be set up properly in order to translate the ^XMB* globals and the ^DIC global in all UCIs.

Routines

All MailMan routines are prefixed with the namespace XM. Version 7.1 is composed of and exports approximately 236 executable routines. A complete listing of these routines with brief descriptions may be found in the Routine Descriptions section of this manual.

Initialization routines may be deleted after the installation is successfully completed. Other routine information, such as the Routine Size Histogram, the Routine %Index, etc., may be generated through the use of Kernel Utilities.

Recommendations for Routine Mapping

Listed here are recommendations for mapping MailMan's XM namespaced routines. While we highly recommend that the routines provided under the long listing be mapped, sites that do not use electronic mail to a great extent may choose to map only the routines noted on the short listing.

Long List

XM
XMA
XMA0*
XMA1*
XMA2
XMA21*
XMAD*
XMAH*
XMAP*
XMB*
XMC
XMC1*
XMD*
XMG*
XML
XML1CRC
XML4CRC*
XMLSWP*
XMR
XMR0*
XMR1*
XMS
XMS0*
XMS1

Short List

XM
XMA
XMA0*
XMA1*
XMA21*
XMAP*
XMC1
XMG*
XML1CRC
XMLSWP*
XML4CRC*
XMR
XMR0*
XMS
XMS0*

System Maintenance

The following chart shows mandatory and suggested system management tasks for proper maintenance of MailMan. These tasks increase utilization of software functionality and system response time. They also reduce the amount of disk space used and minimize system errors.

Mandatory Task Requirements

<u>Task</u>	<u>Scheduled Time</u>	<u>Frequency</u>
XMCLEAN	Off Hours	Daily
XMAUTOPURGE	1 Hour After XMCLEAN	Weekly

Suggested Task Requirements

<u>Task</u>	<u>Scheduled Time</u>	<u>Frequency</u>
XMPURGE-BY-DATE	Off Hours	According to Site Policy
XMMGR-LARGE- MESSAGE-REPORT	Off Hours	Monthly
XMMGR-DISK- MANY-MESSAGE- MAINT	Off Hours	Monthly
XMMGR-PURGE-AI- XREF	Off Hours	Quarterly
XMUT-CHKFIL	Off Hours	Monthly
XMMGR-RESPONSE- TIME-COMPILER	Off Hours	Daily
XMMGR- RESPONSE-TIME- TOGGLER		Daily
XM-IN-BASKET- PURGE	Off Hours	Monthly

Bulletins

The MailMan package uses the following Bulletins:

XM BANNER MESSAGE	This bulletin might be generated when a user changes his banner.
XM-FWD-ADDRESS-CHECKER	This bulletin is generated with a user's forwarding address changes.
XMDATANO	This bulletin is generated whenever a message cannot be delivered after the Simple Mail Transfer Protocol "DATA" command is issued. It indicates that the "Mail From:" and RCPT (recipient) commands were successfully issued, but that something in the header of the message was rejected, such as duplicate message ID. The error message returned by the remote receiver is included in the bulletin.
XMMISS	This is sent when a user gets a missing message.
XMNEWBUL	This bulletin is fired whenever a remote MailMan domain attempts to establish a connection with this domain and the validation numbers do not properly match. This may indicate an attempted breach of security or some other network failure. In order to re-establish communication with this domain, call the site manager to reset your validation numbers.
XMNEWUSER	This message is sent whenever a new user is added to the user file
XMQFAIL	This bulletin is sent to the Postmaster when the server cannot deliver process a queue after a significant number of times.
XMRDACK	This bulletin is used by MailMan to confirm the reading of a message when the CONFIRMATION REQUESTED flag is on in the Message file. Parameter 1 is the subject of the message, and Parameter 2 is the reader's name.

XMRDNAK

This bulletin is used by MailMan to tell the sender that a message was not read in the time prescribed in the CONFIRMATION TIME LIMIT field of the message file. Parameter 1 is the message subject, Parameter 2 is the intended reader.

XMREPNK

This bulletin is used by MailMan to tell the sender that a response to a message has not been received before the RESPONSE REQUEST DATE of the message. Parameter 1 is the name of the responder, and Parameter 2 is the subject of the message.

XMTFAIL

This message is generated whenever a script fails. It includes the transcript of the failed script.

XM_TRANSMISSION_ERROR

This bulletin is fired off when the background transmission process detects a fatal error and can not continue.

MESSAGE: While transmitting a | 1 | the following error was detected: [2]

The following action was taken: [3]

PARAMETER: 1 - This is the type of transmission: Response/Message/Bulletin.

PARAMETER: 2 - This is the error that was detected.

PARAMETER: 3 - This is the action taken by the filer and suggested remedies.

XMUSERNO

This message is issued by the MailMan network processor when a message recipient has been rejected by the remote node. The rejection message of the remote node is included in the bulletin.

XMVADABORT

This bulletin is fired whenever the VADATS receiver is unable to read a line from the MCTS.

XMVALBAD

This bulletin is fired whenever a remote MailMan domain attempts to establish a connection with this domain and the validation numbers do not properly match. This may indicate an attempted breach of security or some other network failure. In order to re-establish communication with this domain, call the site manager to reset your validation numbers.

Manage MailMan Menu

New Features for Managing MailMan

1. There is a Kernel site parameter to set the Message Action Default to either Delete or Ignore.
2. There is an option that checks the status of the background filer and informs you if it is running.
3. Selected messages will be transmitted before other messages in the queue. (Messages can also be deselected.)
4. There is a Kernel site parameter to toggle on/off the recording of transcripts of transmission (which now are addendum to queue failure bulletins).
5. The options to send and receive messages across UCIs have been enhanced so that they work with UCIs that do not share the same library UCI if ^%ZISL in each of the concerned UCIs is translated to the same place.
6. The script language command LOOK has been enhanced to allow computed GOs and to terminate or continue finding text strings. See routine XMC1A1 and/or the Network Scripts section of the Network MailMan Reference Manual for further details.
7. You may now transmit messages via tape. If your network link goes down, record the queue and ship it to any MailMan facility that can connect to the network.

****Also, see the MailMan XMNET-NEW-FEATURES2 Help Frame.**

Manage MailMan Options

Manage MailMan [XMMGR] main menu contains options that will allow the system manager to fully implement and manage the MailMan system by manipulating the Message, Mail Group, Bulletin, and Mail Box files. The Network Management options reached from this menu are discussed in depth in the Network MailMan Reference Manual. User options are discussed in the User Manual.

```
Manage MailMan [XMMGR]
  Check MailMan Files for Errors [XMUT-CHKFIL] **Locked: XUPROG  **
  Create a Mailbox for a user:  [XMMGR-NEW-MAIL-BOX]
  Disk Space Management...     [XMMGR-DISK-SPACE-MANAGEMENT]
  Group/Distribution Management... [XMMGR-GROUP-MAINTENANCE]
  Kernel Site Parameters for MailMan [XMKSP]
  Local Delivery Management     [XMMGR-MESSAGE-DELIVERY-MGT]
  Network Management...        [XMNET]
  New Features for Managing MailMan [XMMGR-HELP]
  Remote MailLink Directory Menu... [XMMGR-DIRECTORY-MAIN]
```

The **Check Mail box Files for Errors [XMUT-CHKFIL]** menu option will go through the MailMan system files (mail boxes and messages) and check for errors in cross-references and very important fields. It should not be run everyday.

It should be run after any database problem, or whenever the system has gone down without the MailMan background filer being stopped gracefully. The most crucial errors would be in the "M" cross-reference of the Mail box file (#3.7) . Some the errors need not be corrected since they are not fatal. Other's must be corrected. It is best to correct them all or call your ISC for help.

Although the system will not fail because of errors detected, the users may experience some problems. This utility will allow you to detect the problems and correct them before they cause a problem. The Kernel security key XUPROG must be assigned to any user of this option.

The **Create a Mail box for a user [XMMGR-NEW-MAIL-BOX]** option is meant to be used only on systems where Kernel 6 or later is not running or when a repair must be made to the Mail Box file (#3.7). Since a mail box is created for each new or reinstated user through the Kernel software, this routine only needs to be run when an error occurs while setting up the user, or if there is a file degradation problem. Using this option for a user whose mail box is wholly or partially set up will not cause data to be lost. A mail box may be created or repaired using this option.

The **Disk Space Management [XMMGR-DISK-SPACE-MANAGEMENT]** is a submenu under the XMMGR main menu. It contains options for managing disk space. All reports are 80 columns wide.

The **AI x-Ref Purge of Received Network Messages [XMMGR-PURGE-AI-XREF]** option maintains the "AI" cross reference of mail messages. This is the cross reference of messages received across the network and it prevents duplicate messages from being received again. The default number of days kept is 730 (2 years is the number of days messages can exist before being purged on FORUM).

The **Clean out waste baskets [XMCLEAN]** option is used to delete each user's waste basket, without deleting the messages from the Message file.

The **IN Basket Purge [XMMGR-IN-BASKET-PURGE]** option purges the IN Basket mail basket in two steps:

Warning! This Option May Be Run Via The TaskManager!

This option purges IN Baskets in two steps:

1. In the first step, a message is sent to users.
 - a. The message contains a list of messages to be purged in step two.
 - b. The message contains a list of actions that will prevent the purging of the listed messages.
 - c. The message will state the number of days before the listed messages will be purged unless the action is taken on a message by message basis.
 - d. The messages listed will not have been referenced for 30 days or the number of days in the Message Retention Days field of the Kernel Site Parameters file, if it is not null.
2. In the second step the messages listed in the message from step 1 will be purged (not less than 30 days later) unless they:
 - a. Have been saved into a basket other than the IN basket
 - b. Have been referenced (read or printed)
 - c. Are marked as NEW

Use the **Large Message Report [XMMGR-LARGE-MESSAGE-REPORT]** option to generate a list of messages that are longer than a specified number of lines (see Field #8.14 in the Kernel Site Parameters file (#4.3)), messages that have no owner or only one owner, or messages that have no text or subject.

Use the **Message Statistics [XMSTAT]** option to display information about the Message (#3.9) and the Mail Box (#3.7) files. It displays a history of messages kept and purged by XMAUTOPURGE. You may delete unwanted dates through FileMan. XMAUTOPURGE enters new data when it successfully completes a purge.

The option also displays statistics about the total number of messages in a user's mail boxes. This portion of the report may be aborted when displayed on the terminal.

The **Purge Message by Origination Date [XMPURGE-BY-DATE]** option removes messages from users' mail baskets and deletes them, along with any responses chained to them. It will do this for a range of messages based upon user input. The user enters the range of internal message numbers to be processed and the date against which they will be checked. The user of this option must be assigned the Kernel security key XMMGR.

The **Purge unreferenced messages [XMPURGE]** option purges the mail system of all message that are no longer needed.

The **Recover Messages into User's 'IN' Basket [XMUT-REC-MENU]** submenu contains options for recovering messages for a user. It will recover all messages a user has ever received as long as the user has not terminated from them.

The **Delete Found Messages from Found Messages List [XMUT - REC-DELETE]** menu option deletes the temporary storage of a list of messages found when the Find Messages for User option is used by a user.

Use the **Deliver Found Messages into User's IN Basket [XMUT-REC-DELIVER]** option to deliver messages found with the Find Messages for Users option. The messages found will be placed into the user's IN basket as long as they are not already in another basket.

Use the **Find Messages for User [XMUT-REC-FIND]** menu option to find all messages that a user has ever had and has not terminated from. This list of messages can be used as input into two other processes:

- Deliver Found Messages into User's IN Basket
- List Messages Found

The **List Messages Found [XMUT-REC-RPT]** option lists messages found for users with the Find Messages for User menu option.

The **Request Owners of Many Messages to do Maintenance [XMMGR -DISK-MANY-MESSAGE-MAINT]** menu option sends messages asking users to clean out mail boxes, if they have too many messages.

Group/Distribution Management [XMMGR-GROUP-MAINTENANCE] is a submenu under XMMGR.

The **Bulletin edit [XMEDITBUL]** option allows management to enter/edit a MailMan bulletin, change the routing information, and document a bulletin.

The **Edit Distribution List [XMEDITDIST]** option is used to edit a distribution list. The name of a Distribution List is the name of a position such as Postmaster or group name such as G.IRM. A list primarily contains a set of domain names that are concatenated to the Distribution List name to create additional recipients for a message. A recipient with the same name as the list name is presumed to exist at each different domain.

If the name is G.SUPPORT, and the domains are FORUM.VA.GOV & ALTOONA.VA.GOV, the message will be sent to:

G.SUPPORT@FORUM.VA.GOV; and
G.SUPPORT@ALTOONA.VA.GOV

A distribution list may be in to more than one mail group. Each mail group may include more than one distribution list.

The **Group Membership [XMENROLL]** option allows a MailMan user to join mail groups for which the "SELF ENROLLMENT ALLOWED?" flag is set to "yes". If the user is already a member of a group, then this option allows the user to leave the group. The user will only be able to join or rejoin public groups for which self-enrollment is allowed.

The **Mail Group Coordinator's Edit [XMMGR-MAIL-GRP-COORDINATOR]** option allows mail group coordinators to edit the membership of mail groups that he is the coordinator of (and no other). It does not allow editing of remote recipients, but limits the responsibility for problems of delivering to incorrect addresses.

The **Mail Group Coordinator's Edit w/Remotes [XMMGR-MAIL-GRP-COORD-W/REMOTES]** option allows mail group coordinators to edit the membership of mail groups that he/she is the coordinator of (and no other). It allows editing of local and remote recipients.

Use the **Mail Group Edit [XMEDITMG]** option to edit all Mail Group file parameters.

The **Kernel Site Parameters for MailMan [XMKSP]** option allows system managers to edit the fields in the Kernel Site Parameters file that do not have to do with christening. To christen a domain, use the Christen a Domain menu option. Christen a Domain will also allow you to change fields set during the original christening, if they are set incorrectly. You may use FileMan to edit the Transmission Script file, if the scripts for Austin or the Mini engine need to be changed.

The **Local Delivery Management [XMMGR-MESSAGE-DELIVERY-MGT]** submenu contains options for the background filer. All reports are 132 columns wide.

The **Active Users/Deliveries Report [XMMGR-BKFILE-ACT]** option generates a report that lists in half hour intervals active users and message deliveries made from previously filed information.

The **CHECK background filer (XMD) [XMMGR-CHECK-BACKGROUND - FILER]** option tells you if the background filer is running and tells how many recipients need delivery for each of the messages/responses in the queue.

Use the **Compile Response Time Statistic [XMMGR-RESPONSE-TIME-COMPILER]** option as a background job, scheduled daily to collect statistics on the previous day's response time. The data is put into File #4.2998. It will then "kill off" associated %ZTRL global nodes.

The **Deliveries by Group [XMMGR-BKFILE-GROUP]** option produces a list of deliveries made for each distinct delivery queue, in half hour intervals.

The **Delivery Queue Statistics Collection [XMMGR-DELIVERY-STATS -COLL]** option collects delivery queue statistics.

The **Edit numbers to Normalize Reports [XMMGR-BKFILE-EDIT - NORMALIZED]** option allows the user to customize the normalized report.

The **Graphics Download to Graphics (TAB Separators) [XMMGR- BKFILE-TABBED-STATS]** option can be used to capture a report and then use the captured file in EXCEL or other graphic packages. The data has TABS between the fields as delimiters.

The **Log Response Time Toggler [XMMGR-RESPONSE-TIME-TOGGLER]** option will turn on the Kernel Site Parameter for response time logging, a little after each half hour.

It will then schedule another task to turn off the Kernel Site Parameter for response time logging, unless the time is between 4 p.m. and 8 a.m. During these hours, response time logging will remain on unless site management interferes, by canceling the tasks associated with this phenomenon and edits the Log Response Time field for the appropriate Volume Set to be "off".

Use the **Mail Delivery Statistics Report [XMMGR-BKFILE-STAT]** option to generate reports showing a list of active users, queue waits, average response time, number of lines displayed to users, etc., in half hour intervals.

The New Messages and Logon Statistics [XMMGR-NEWMESS/LOGON - STATS] option prints the number of new messages created and logons with logon minutes for a specified time period.

The START background filer (XMAD) [XMMGR-START-BACKGROUND - FILER] option reverses the action of the Stop-Background-Filer option [XMMGR-STOP-BACKGROUND-FILER] has been run. It will also restart the background filer if it disappears from the system status report. In order for this option to be effective, the TaskManager (ZTM) must be running.

Use the **STOP background filer (XMAD) [XMMGR-STOP-BACKGROUND - FILER]** option to stop the background filer gently at the end of a delivery before it starts to deliver any further messages. This only stops local delivery operations. ALL LOCAL MAIL DELIVERY WILL STOP until the XMMGR-START-BACKGROUND-FILER option is run.

Note: STOPS DELIVERY OF LOCAL MAIL GRACEFULLY!

The Network Management [XMNET] leads to options that are discussed in depth in the Network MailMan Reference Manual.

New Features for Managing MailMan [XMMGR-HELP] offers help for site management.

Remote MailLink Directory Menu [XMMGR-DIRECTORY-MAIN] allows the site manager to manage the remote MailLink Directory, by loading the VACO directory, WANG/NOVA directory and remote domain user directories into the Remote User Directory file ^XMD(4.2997).

The Enter/Edit Directory Request Flags by Group [XMMGR-DIRECTORY-EDITGRP] option allows site management to control groups of domains from which directories are requested.

Enter/Edit Remote User [XMEDIT-REMOTE-USER] allows a single person's remote address to be put into the Remote User Directory so that messages can be automatically addressed to him.

Group eMail Directory Request [XMMGR-DIRECTORY-GROUP] allows site management to request directories from all the domains in a group of domains as defined in XMMGR-DIRECTORY-EDITGRP.

List eMail Directory Request by Groups [XMMGR-DIRECTORY-LISTGRP] lists groups created by XMMGR-DIRECTORY-EDITGRP.

The **Load Remote VACO (Wang/Noava) Directory [XMMGR-DIRECTORY-VACO]** option loads a file from the Host File Server. The user has the choice of whether to run this task interactively or to schedule a batch job to update the MailLink directory.

The **Remote Directory from all Domains [XMMGR-DIRECTORY-ALL]** option schedules tasks to run in the background to update the MailLink directory ^XMD(4.2997). Use this option cautiously because it sends requests to all the domains for soliciting remote user directories.

Request Mail Directory From a Single Domain Server [XMMGR-DIRECTORY-SINGLE] schedules a task to run in the background to update the MailLink directory ^XMD(4.2997) from a single domain server.

Routine Descriptions

This section provides information related to all executable XM* routines exported in MailMan Version 7.1. Do NOT delete any XM* routines. XM initialization routines are listed here also. These may be deleted after installation.

All MailMan routines are prefixed with the namespace XM. Version 7.1 is composed of and exports approximately 236 executable routines. Other routine information, such as the Routine Size Histogram, the Routine %Index, etc., may be generated through the use of Kernel Utilities.

The Routine Layout design for MailMan is functionally grouped as followed:

<u>(L)ocal/ (N)etwork</u>		<u>Program Name</u>	<u>Description</u>
L		XM	Top Level
L		XMA*	Local Mail Activities
L		XMA0-XMA11	Local Display and Options
L		XMA2	Sender
L	N	XMA21	Name Server
L		XMA22	Transmit Logic
L	N	XMA23	Basket Drop
L	N	XMA24	Recipient Naming
L		XMA25	Response Recovery
L		XMA3*	Purges
L		XMA4	Back up Scramble
L		XMA5*	Query Display and Help
L		XMA7	Mail box Control
L	N	XMB*	Bulletins
L	N	XMB1	Later'd Message Handling
	N	XMC*	Network Mail and
			Communications
	N	XMC	Script/TalkMan
	N	XMC1-XMC3	Script Interpreter
L	N	XMCSIZE	Statistics of Messages (Bytes
			and Rate of Transmission)
L	N	XMD	Programmer Entry Point
L	N	XMDIR*	Remote Directories
L		XME*	Encryption
L		XMI*	Initialization Routines
	N	XML*	Network Mail and
			Communications
	N	XMM*	Modem Control
	N	XMP*	PackMan Control
	N	XMR*	SMTP Receiver
	N	XMS*	SMTP Sender
L		XMY*	Patches and Inits
L		XMU*	Utilities

Routines

Parent routines are signified by bold type.

XM	Routine XM is the main MailMan driver that is used to talk to all of the other MailMan routines. It sets up the main variables such as XMDUZ, the main user number, and XMDISPI (the MailMan display type indicator).
XM0	Continuation of XM.
XMA	Read/new options.
XMA0	Basket control.
XMA01	Queued printing.
XMA02	Queued printing.
XMA03	Basket control.
XMA0A	New mail options.
XMA1	Message actions.
XMA10	Priority Mail Handling.
XMA11	This routine edits messages, handles replies, and does basket elimination when baskets are cleared of all messages.
XMA11A	XMA11 continued.
XMA11B	Internet Style Answer.
XMA1A	Confirmation messages.
XMA1B	Save and delete basket operations.
XMA1C	Save and delete basket operations for server baskets of the Postmaster.
XMA1E	User error messages
XMA2	This is the focal point for all MailMan SEND activities, handling message header setup, text data entry, dropping messages into mail boxes or queues, checking security, tracking responses, and other send functions.
XMA20	XMA2 continued.
XMA21	MailMan name server.
XMA210	XMA21 continued.
XMA21A	XMA21 continued.
XMA21B	XMA21 continued.
XMA21C	XMA21 continued.
XMA21FWD	XMA21 continued.
XMA21G	XMA21 continued.
XMA22	"Transmit now" prompt.
XMA23	Obsolete.
XMA24	MailMan name server.
XMA25	Response recovery.
XMA2B	Send MultiMedia Mail message.
XMA2C	Copy function.

XMA2C0	XMA2C continued.
XMA2R	Response Programmer Interface.
XMA3	This routine purges unreferenced messages.
XMA30	XMA3 continued.
XMA31	XMA3 continued.
XMA32	XMA3 continued.
XMA32A	This routine purges messages by date.
XMA33	XMA3 continued.
XMA4	Scramble help.
XMA5	This routine allows editing, adding and subtracting recipients and recipient characteristics.
XMA50	XMA5A continued.
XMA51	Reply help text.
XMA5A	Query continued and the Later'd Message Report.
XMA6	Introductory text for new users.
XMA7	This routine allows the user to create a personal mail group, to act as a surrogate for another user, and to edit his banner and surrogate list.
XMA7G	XMA7 continued.
XMA7G1	XMA7 continued.
XMAD	Message delivery.
XMAD0	Bulletins for message delivery problems.
XMAD1	XMAD continued.
XMAD1A	XMAD continued.
XMAD1X	Name resolution and forwarding address handler.
XMAD2	Background filer.
XMADA	This routine handles Background Filer Errors and ^XMB("POST") documentation.
XMADDOC	Document delivery.
XMADDOC1	XMADDOC continued.
XMADDOC2	XMADDOC continued.
XMADGO	This routine contains data on starting delivery.
XMADGO1	XMADGO continued.
XMADJ999	Post Ticklers (Later'd Messages).
XMADJF0	Background Message Delivery.
XMADJF1	XMADJF continued.
XMADJF1A	XMADJF continued.
XMADJF1B	XMADJF continued.
XMAFTP	This routine asks for user interaction for sending a file across the network using the FTP service of TCP/IP.
XMAH	Local help processing.
XMAH0	Range processing.
XMAH1	Network Responses.
XMAI	IN Basket purge - Front End.
XMAI0	IN Basket purge to XMAI1.
XMAI1	IN Basket purge select messages.
XMAI2	Too Many Message Report.
XMAK	Kills off all MailMan variables.

XMAL0	Lookup/list messages.
XMAL0A	XMAL0 continued.
XMAP	Message display.
XMAP0	XMAP continued.
XMAP1	Message printing (header) functions.
XMAPBLOB	Message Printing continued.
XMAPHOST	Message Printing continued.
XMAREAD	Ask questions, validate data.
XMASEC	Secure PackMan messages.
XMB	Bulletins and API.
XMB1	XMB continued.
XMBBLOB	XMB continued.
XMBGRP	XMB continued.
XMBPOST	Schedule tasks.
XMC	This is the focal point for network options and the TalkMan controller, handling the script interpreter, script interpreter setup, the open/close commands for the script processor, and various network/management functions.
XMC1	XMC continued.
XMC11	XMC continued.
XMC11A	XMC continued.
XMC1A	XMC continued.
XMC1A1	XMC continued.
XMC2	XMC continued.
XMC3	XMC continued.
XMC4	Miscellaneous network management functions.
XMCD	Diagnostic options for testing.
XMCSIZE	Statistics.
XMCTLK	TalkMan talk-mode.
XMCTLK0	XMCTLK continued.
XMCTRAP	General error trap to use for Network MailMan tasks.
XMCU1	Decode/encode subjects.
XMD	Message sending API.
X MDF	XMD continued.
XMDIE	Obsolete.
XMDIR1	Local Remote User Directories.
XMDIR1A	XMDIR continued.
XMDIR1B	XMDIR continued.
XMDIRQST	XMDIR continued.
XMDIRRCV	XMDIR continued.
XMDIRSND	XMDIR continued.

XMDOC	This routine contains information on MailMan documentation.
XME XME1	This routine contains information for encryption. Continuation of XME functions.
XMFI	This routine is an example of a server.
XMGAPI0 XMGAPI1 XMGAPI2 XMGAPI3	Programmer Calls - Subject editing. Programmer Calls - Initialization. Programmer Calls - Get header Information. Server for broadcasts to all mail boxes.
XML XML1 XML1CRC XML3 XML4CRC XML4CRC1 XML98 XMLPC XMLSTAT XMLSWP XMLSWP0 XMLSWP2 XMLTCP	Network protocol initialization. Obsolete. ISC/Protocol. Obsolete. Block-mode protocol. XML4CRC continued. Obsolete. PC Protocol. Statistics control. Sliding Window Protocol. XMLSWP continued. XMLSWP continued. TCP/IP Protocol.
XMM1 XMM2	Modem control for Vadic 3451. Modem control for the Cermatek Info Mate.
XMNETV XMNTEG XMNTEG0	Obsolete. Checksum. XMNTEG continued.
XMP XMP2 XMP2A XMP3 XMPC XMPD XMPDAT XMPG XMPH	PackMan - Front-end. Printing, installing, summing, and comparing PackMan messages. PackMan install. Building, un-installing PackMan messages. Routine compare. Obsolete. Reserved for the FileMan server. Global list/load. PackMan print.

XMPSEC	PackMan security.
XMPX	Obsolete.
 XMR	 This routine is the focal point for SMTP initialization, SMTP special and auxiliary functions, and the SMTP help processor.
XMR0	XMR continued.
XMR0A	XMR continued.
XMR0B	XMR continued.
XMR0BLOB	XMR continued.
XMR1	XMR continued.
XMR1A	XMR continued.
XMR2	SMTP help processor.
XMR3	SMTP help processor.
XMRENT	Network Mail information API.
XMRFTP	FTP
XMRMSM	TCP/IP receiver for the MSM/Unix platform.
XMRPCTS	PCTS.
XMRPCTS0	PCTS continued.
XMRPCTS1	PCTS continued.
XMRTCP	TCP/IP poller.
XMRTCPGO	XMRTCP continued.
XMRUCX	This routine is the TCP/IP receiver for the Alpha UCX platform.
 XMS	 SMTP Message Transmission.
XMS0	XMS continued.
XMS0A	XMS continued.
XMS0BLOB	XMS continued.
XMS1	Task creation and queuing for NetMail.
XMS1P	Poller.
XMS2	Header printing.
XMS3	This routine contains the server read/write logic.
XMS4	Message Queues Reports.
XMS5	Display/transmit Queues Reports.
XMS5A	Message Queues reports.
XMS5B	Reserved for IHS Parallel queuing.
XMSER	Network Error Reports.
XMSERR	Bulletins concerning network mail problems.
XMSM	SMTP error messages.
XMSM1	Reject duplicate messages.
XMSMAIL	SMTP Mail Command.
 XMUT1	 Find user messages.
XMUT1A	Recover messages.
XMUT1B	List basket.
XMUT2	Message analysis - Large Message Reports.

XMUT4	Integrity checker.
XMUT4A	XMUT4 continued.
XMUT4B	XMA4 continued.
XMUT4BA	XMA4 continued.
XMUT4C	XMA4 continued.
XMUT5	Check out delivery queue.
XMUT5B	Delivery Queue Data Collecting.
XMUT5C	XMUT5B continued.
XMUT5G	XMUT5B continued.
XMUT5Q	XMUT5B continued.
XMUT5Q1	XMUT5B continued.
XMUT5R	Delivery Queue Data Reports.
XMUT5R1	XMUT5R continued.
XMUT5R2	XMUT5R continued.
XMUT6	Verify Delivery Queue Data.
XMUT7	Forwarding Address Check Bulletin.
XMUTASK	Miscellaneous Utilities.
XMUTCOM1	Document COMM file to VMS users.
XMUTPUR0	AI cross-reference purger.
XMVA	Obsolete.
XMVCODE	Obsolete.
XMVPIC	Obsolete.
XMVSTUFF	Obsolete.
XMVTEST	Obsolete.
XMYMNEM	Mnemonic Conversion - MailMan Hosts.
XMYMNEM0	XMYMNEM continued.
XMYMNEM1	XMYMNEM continued.
XMYMNEM2	XMYMNEM continued.
XMYPDOM	Domain Name checkers.
XMYPDOM1	XMYPDOM continued.
XMYPOSD	Domain file validation for post initialization.
XMYPOST	XM post initialization.
XMYPOST0	Reset mail box x-references.
XMYPOST1	Reset mail box x-references.
XMYPOST2	MailMan post-initialization.
XMYPOST3	MailMan post-initialization.
XMYPOST4	MailMan post-initialization.
XMYPOST5	MailMan post-initialization.
XMYPRE	Pre installation init.

Checksums

The checksums are generated by executing the XMNTEG* routines, which were created by the Kernel V. 7.1 software.

Checksum routine created on
MM-DD-YY@16:18:14 by KERNEL V7.1

XM	::4893322
XM0	::4912674
XMA	::12051600
XMA0	::9665614
XMA01	::2756871
XMA02	::6122636
XMA03	::7773789
XMA0A	::6165312
XMA1	::10558704
XMA10	::5587620
XMA11	::11668318
XMA11A	::6856608
XMA11B	::3291121
XMA1A	::3777724
XMA1B	::7260820
XMA1C	::1474193
XMA1E	::1530615
XMA2	::10106464
XMA20	::4266922
XMA21	::9567360
XMA210	::1925522
XMA21A	::8423871
XMA21B	::3903898
XMA21C	::5655928
XMA21FWD	::406565
XMA21G	::10231186
XMA22	::7780497
XMA23	::1086
XMA24	::10412829
XMA25	::5071849
XMA2B	::4986311
XMA2C	::3972504
XMA2C0	::7615930
XMA2R	::4733042
XMA3	::11195689
XMA30	::5617809
XMA31	::2125704
XMA32	::13342847
XMA32A	::11707756
XMA33	::1090
XMA4	::1695677
XMA5	::11164486
XMA50	::4115522
XMA51	::3840890
XMA5A	::14101090
XMA6	::986923

XMA7	::10077633
XMA7G	::5426292
XMA7G1	::1175057
XMAD	::903
XMAD0	::481945
XMAD1	::7043589
XMAD1A	::5656044
XMAD1X	::3265319
XMAD2	::2440129
XMADA	::1034
XMADDOC	::1992
XMADDOC1	::4357710
XMADDOC2	::3589
XMADGO	::2017415
XMADGO1	::788007
XMADJ999	::419074
XMADJF0	::5354543
XMADJF1	::8481461
XMADJF1A	::912544
XMADJF1B	::4825130
XMAFTP	::3690546
XMAH	::5026801
XMAH0	::1594203
XMAH1	::8789388
XMAI	::4557700
XMAI0	::1750753
XMAI1	::7933692
XMAI2	::1646281
XMAK	::4457158
XMAL0	::7710735
XMAL0A	::7458546
XMANON	::802776
XMAP	::8826255
XMAP0	::5004045
XMAP1	::3005830
XMAPBLOB	::4954112
XMAPHOST	::6314745
XMAREAD	::4800432
XMASEC	::4264116
XMB	::7046057
XMB1	::8922945
XMBBLOB	::1692253
XMBGRP	::5482999
XMBPOST	::4595542
XMC	::4044277
XMC1	::6623874
XMC11	::11677623
XMC11A	::2846834
XMC1A	::7108650
XMC1A1	::2777
XMC2	::10017115
XMC3	::5901486
XMC4	::5412826
XMCD	::5190692
XMCSIZE	::1741851
XMCTLK	::9621513
XMCTLK0	::711113
XMCTRAP	::221362

Routine Descriptions

XMCU1	::789744	XMRPCTS	::10291803
XMD	::4921785	XMRPCTS0	::6258002
X MDF	::1706479	XMRPCTS1	::6562449
XMDIE	::1604	XMRTCP	::3016317
XMDIR1	::10028416	XMRTCPGO	::2876554
XMDIR1A	::4658366	XMRUCX	::263222
XMDIR1B	::3009528	XMS	::5888899
XMDIRQST	::5427235	XMS0	::9125865
XMDIRRCV	::1862431	XMS0A	::8847953
XMDIRSND	::1508027	XMS0BLOB	::6815258
XMDOC	::1559	XMS1	::7477071
XME	::10528702	XMS1P	::725527
XME1	::8041932	XMS2	::1293876
XMF1	::2879677	XMS3	::13046326
XMGAPI0	::2337589	XMS4	::3616422
XMGAPI1	::5966000	XMS5	::12563487
XMGAPI2	::2120231	XMS5A	::4118857
XMGAPI3	::2987293	XMS5B	::4493309
XML	::5188447	XMSER	::1698
XML1	::860	XMSERR	::2286812
XML1CRC	::5601399	XMSFTP	::3096740
XML3	::868	XMSFTPUX	::3150307
XML4CRC	::11969909	XMSM	::9599017
XML4CRC1	::6216754	XMSM1	::1692536
XML98	::1172	XMSMAIL	::4652921
XMLPC	::2826885	XMUT1	::8603321
XMLSTAT	::1232153	XMUT1A	::4040808
XMLSWP	::5626101	XMUT1B	::964784
XMLSWP0	::5152871	XMUT2	::4770720
XMLSWP2	::3614299	XMUT4	::4510855
XMLTCP	::1941000	XMUT4A	::4333719
XMM1	::3866874	XMUT4B	::8543914
XMM2	::2670817	XMUT4BA	::8604816
XMNETV	::1882	XMUT4C	::3792620
XMP	::8322629	XMUT5	::4455724
XMP2	::6637806	XMUT5B	::2824190
XMP2A	::9951267	XMUT5C	::2976973
XMP3	::5867885	XMUT5G	::380003
XMPC	::5263348	XMUT5Q	::8765057
XMPD	::754	XMUT5Q1	::4382936
XMPDAT	::1777	XMUT5R	::1784
XMPG	::4354526	XMUT5R1	::2850555
XMPH	::4682271	XMUT5R2	::3361154
XMPSEC	::5817282	XMUT6	::2438497
XMPX	::3995549	XMUT7	::751376
XMR	::6264225	XMUTASK	::371109
XMR0	::8648535	XMUTCOM1	::2620897
XMR0A	::3418730	XMUTPUR0	::1115401
XMR0B	::9520560	XMVA	::1736
XMR0BLOB	::5117794	XMV CODE	::2248
XMR1	::7057132	XMVPIC	::2108
XMR1A	::6647702	XMVSTUFF	::3333
XMR2	::7882048	XMVTEST	::2788
XMR3	::5739583	XMYMNEM	::5559955
XMRENT	::2314897	XMYMNEM0	::5621687
XMRFTP	::2882006	XMYMNEM1	::3231186
XMRFTPUX	::2894045	XMYMNEM2	::2642242
XMRMSM	::400263	XMYPDOM	::13329514

Routine Descriptions

XMYPD0M1	;;10194268
XMYPOS0	;;2277999
XMYPOST	;;9027376
XMYPOST0	;;7194561
XMYPOST1	;;980097
XMYPOST2	;;8288260
XMYPOST3	;;621667
XMYPOST4	;;8500233
XMYPOST5	;;5523251
XMYPRE	;;4770905

>

File List

This section discusses information on all files related to MailMan. File numbers, file names, and file descriptions are provided here. Files requiring security access and MailMan files related to other DHCP packages are also included within this section.

Controlled Procedures: All files, fields, and routines in this package are considered to perform controlled procedures and may not be modified.

3.4 COMMUNICATIONS PROTOCOL

This file holds the definitions of all the communications protocols known to the Kernel. A protocol has executable MUMPS code for sending, receiving, opening, and closing a link. This file is not to be touched by anyone not intimately knowledgeable with the workings of the networked MailMan.

3.6 BULLETIN

Bulletins are "Super" messages. Each Bulletin has a text and a subject just like a normal message. But embedded within the subject and/or the text can be variable fields that can be filled in with parameters. There is also a standard set of recipients in the form of a Mail Group that is associated with the bulletin.

Bulletins are processed by MailMan either because of a special cross-reference type of FileMan or because of a direct call in a routine. The interface for the direct call is described in the documentation on programmer entry points. FileMan sets up code that will issue a bulletin automatically when the special cross-reference type is created. In either case, the parameters merged into the text and/or the subject normally make each bulletin instance unique.

3.7 MAIL BOX

This file holds pointers to the message file, according to users. Each mailbox entry corresponds to a user. Postmaster is a special user who controls the network communications queues. Each user is automatically given two baskets: IN and WASTE. All incoming messages go into the users IN basket. When the user deletes them, they are temporarily stored in the WASTE basket. Users may create new baskets as they wish.

3.73 MESSAGES TO BE NEW AT A LATER DATE

Entries in this file are processed by the background filer. The message pointed at becomes new at the date and time requested.

3.8 MAIL GROUP

This file holds the names of all groups known to MailMan and their members.

3.816 DISTRIBUTION LIST

The Distribution List file has entries that consist of names. A Distribution List is interpreted as a name to which the message will be delivered at each of the associated domains in the list. Each name is associated with one or more domains. When a Distribution List is entered into a mail group, MailMan will deliver a message to all the entities it has linked to it. Therefore a Distribution List whose NAME is G.SUPPORT and whose associated domains are FORUM.VA.GOV, ALTOONA,VA,GOV and ISC-SF.VA.GOV will be sent (in addition to all other entities attached to the mail group) to:

G.SUPPORT@FORUM.VA.GOV
G.SUPPORT@ALTOONA.VA.GOV
& G.SUPPORT@ISC-SF.VA.GOV

3.9 MESSAGE

This file contains the messages.

4.2 DOMAIN

This file is used to name all of the nodes to which MailMan messages may be routed. Each name in this file corresponds to the part of a MailMan address following the "@".

Domains may have synonyms, allowing users to name sites with one name, while MailMan uses the more formal Domain Naming conventions.

This file also controls whether messages are queued for immediate transmission and into what queue they are dropped. Any domain may have a relay domain, which controls the routing as follows:

If a domain has a named relay domain, the message is put in the queue for the relay domain.

If not, and the domain has a TRANSMISSION SCRIPT, then the message is put in the queue for that domain.

Otherwise, the message is put in the queue for the Parent domain, as defined at MailMan initialization time.

If for some reason your site needs a copy of the Domain file, it is recommended that you call another near-by site or your supporting ISC.

4.281 INTER-UCI TRANSFER

The Inter-UCI Transfer file is used by MailMan to do non-interactive transmissions and receptions of messages to and from UCIs that share the %ZISL file either because they are on the same machine or because they are on the same local area network and use DDP translation techniques for the %ZISL global.

4.2995 MAILMAN OUTSTANDING FTP TRANSACTIONS

Entries in this file describe file transfers that will be controlled by the TCP/IP Poller.

4.2996 INTERNET SUFFIX

This file contains Internet reserved names that cannot be used under certain circumstances:

- o Domain names may not partially match them
- o Domain names may not match them

4.2997 REMOTE USER DIRECTORY

Users with known off-system electronic mail addresses are accessed via this file.

4.2998 MESSAGE DELIVERY STATS

This file is used to store statistics about local message deliveries, response time and numbers of active user processes.

4.2999 MESSAGE STATISTICS

This file is used to collect non-static information about network mail transmissions.

4.3 KERNEL SITE PARAMETERS

This file holds the site parameters for this installation of the Kernel. It will have only one entry -- the domain name of the installation site. Some parameters are defined by the system manager during the installation process. These include time zone, UCI association table (volume set multiple), and specification of the account where XMD, the MailMan background filer, should run. Others may be edited subsequent to installation. The parent domain, set to FORUM during initialization, may be changed. TaskMan, spooling, response time, and audit parameters may be established. Priorities may be set for interactive users and for TaskMan. Defaults for fields such as timed read, auto menu, and ask device are defined for use when not otherwise specified for a user or device. Cross-references are time zone, domain name, parent, and linked UCI.

4.4 MAILMAN TIME ZONE

MailMan Time Zones are used to calculate the time in the time zone a receiving domain is in for a message coming in from a different time zone. Therefore times can be expressed in EST (Eastern Standard Time) even if they were originally formed in PST (Pacific Standard Time).

4.5 NETWORK TRANSACTION

This file is obsolete.

4.501 NETWORK SENDERS REJECTED

The system manager can input partial or full matches to network addresses into this file. When Network mail receives a message from a sender that contains the string input, that sender will be rejected. This can be used to prevent large messages or large quantities of messages from coming into a system from a remote site.

4.6 TRANSMISSION SCRIPT

Transmission scripts are lists of script commands that are executed by the script processor for Network Mail transmissions in order when they are invoked. The command in a script that invokes a transmission script is the CALL. Therefore C KERNEL invokes a script that interfaces with the SMTP (Simple Mail Transfer Protocol) process using the SCP (Simple Communications Protocol). Transmission scripts are used most often to invoke a portion of a longer script that is used in many different domains.

The following files are accessed by MultiMedia MailMan.

2005 IMAGE

This file contains pointers to files and related data so that they can be displayed.

2005.2 NETWORK LOCATION

This is the logical name of the physical location where an image is stored.

Files with Security Access

MailMan has two levels of FileMan file security. MailMan files contain data that are prepared according to VA policy and procedures and therefore require a high level of protection regarding write, delete, and LAYGO access.

The definitions for each security key attached to these files are.

System Manager access
@ **Programmer access**

FILES WITH SECURITY ACCESS			MAR 2,1994 14:18 PAGE 1			
NAME	NUMBER	DD ACCESS	RD ACCESS	WR ACCESS	DEL ACCESS	LAYGO ACCESS

COMMUNICATIONS PROTOCOL	3.4	#		#	#	#
BULLETIN	3.6	#		#	#	
MAIL BOX	3.7	#		#	#	#
MESSAGES TO BE NEW AT A LATER	3.73					
MAIL GROUP	3.8	#		#	#	
DISTRIBUTION LIST	3.816					
MESSAGE	3.9					#
DOMAIN	4.2					
INTER-UCI TRANSFER	4.281					
MAILMAN OUTSTANDING FTP TRANSA	4.2995	@	@	@	@	@
INTERNET SUFFIX	4.2996	@	@	@	@	@
REMOTE USER DIRECTORY	4.2997	@	@	@	@	@
MESSAGE DELIVERY STATS	4.2998					
MESSAGE STATISTICS	4.2999					
KERNEL SITE PARAMETERS	4.3	@	#	#	#	#
MAILMAN TIME ZONE	4.4					
NETWORK TRANSACTION	4.5					
NETWORK SENDERS REJECTED	4.501	@	@	@	@	@
TRANSMISSION SCRIPT	4.6					

Site specific parameters may be set in the Kernel Site Parameters file (#4.3). Please refer to Appendix IV -- Kernel Site Parameters in this manual.

File List
Files with Security Access

Exported Options

Menu Diagram

MailMan Master Menu

Manage Mailman

- Check MailMan Files for Errors**

- Create a Mailbox for a user**

Disk Space Management

- AI x-Ref Purge of Received Network Messages**

- Clean out waste baskets**

- IN Basket Purge**

- Large Message Report**

- Message statistics**

- Purge Messages by Origination Date**

- Purge Unreferenced Messages**

- Recover Messages into Users IN Basket**

- Delete Found Messages from Found Messages List**

- Deliver Found Messages into Users IN Basket**

- Find Messages for User**

- List Messages Found**

- Request Owners of Many Messages to do Maintenance**

Group/Distribution Management

- Bulletin edit**

- Edit Distribution List**

- Group membership**

- Mail Group Coordinators Edit**

- Mail Group Coordinators Edit W/Remotes**

- Mail group edit**

Kernel Site Parameters for MailMan

Local Delivery Management

- Long-term Mail Statistics**

- Active Users/Deliveries Report**

- CHECK background filer (XMAD)**

- Compile Response Time Statistics**

- Deliveries by Group**

- Delivery Queue Statistics Collection**

- Edit numbers to Normalize Reports**

- Graphics Download (TAB separators)**

- Log Response Time Toggler**

- Mail Delivery Statistics Report**

- New Messages and Logon Statistics**

- START background filer (XMAD)**

- STOP background filer (XMAD)**

**Exported Options
Menu Diagram**

- Network Management**
 - Christen a domain**
 - Compare Domains in System Against Released List**
 - Network Help**
 - Queue Management**
 - Actively Transmitting/Receiving Queues Report**
 - Display Active & Inactive Message Queues**
 - Historical Queue Data/Stats Report**
 - List a transcript**
 - Queues with Messages to Transmit Report**
 - Show a queue**
 - Transmit a Single Queue**
 - Transmit All Queues**
 - Site Parameters**
 - Transmission Management**
 - Edit a script**
 - Play a script**
 - RECEIVE MESSAGES FROM OTHER UCI**
 - SEND MESSAGES TO ANOTHER UCI**
 - Sequential Media Message Reception**
 - Sequential Media Queue Transmission**
 - Subroutine editor**
 - Validation Number Edit**
- New Features for Managing MailMan**
- Remote MailLink Directory Menu**
 - Enter/Edit Directory Request Flags by Group**
 - Enter/Edit Remote User**
 - Group eMail Directory Request**
 - List eMail Directory Request by Groups**
 - Load Remote VACO (Wang/Noava) Directory**
 - Remote Directory from all Domains**
 - Request Mail Directory From a Single Domain Server**

Network Management

- Network Management**
 - Christen a domain**
 - Compare Domains in System Against Released List**
 - Network Help**
 - Queue Management**
 - Actively Transmitting/Receiving Queues Report**
 - Display Active & Inactive Message Queues**
 - Historical Queue Data/Stats Report**
 - List a transcript**
 - Queues with Messages to Transmit Report**
 - Show a queue**
 - Transmit a Single Queue**
 - Transmit All Queues**
 - Site Parameters**

Transmission Management

Edit a script

Play a script

RECEIVE MESSAGES FROM OTHER UCI

SEND MESSAGES TO ANOTHER UCI

Sequential Media Message Reception

Sequential Media Queue Transmission

Subroutine editor

MailMan Menu

Assume the Identity of SHARED,MAIL

Assume another identity as a surrogate

MailMan Help

Features New in Version 7.1 MailMan

Group information

MailLink Help

MailMan general information

Questions and Answers on MailMan

User information

User Manual

New messages and responses

Other MailMan Functions

Banner edit

List Contents of All Baskets

Change/Delete LATER'D Messages

Communications

GET (Retrieve) File from Remote System

Send (Put) File to Remote Location

Edit user options

Forwarding Address Edit

Group membership

Load PackMan Message

Message Search by Sender/Date

Personal Group Enter/Edit

Report on LATER'D Messages

Read a message

Send a Message

Options without Parents

The following options are not assigned to any menu when the package is exported. They may be assigned at the discretion of the system manager if appropriate.

XMBLOBSSEND	Send MultiMedia messages
XMDIE SERVER	(queued to run by server)
XMMASTER	(master menu)
XMMGR-BACKGROUND-FILER	(Background Filer submenu)
XMMGR-BKFILER-WAIT	(runs Delivery Queues Wait Report)
XMMGR-DIRECTORY-RECV	(server)
XMMGR-DIRECTORY-SEND	(server)
XMNET-TWIX-SEND	(option to Send a TWIX via PCTS)
XMNET-TWIX-TRANSMIT	(transmits a TWIX over the network)
XMSCRIPTRES	(option to Resume processing a script)
XMSUGGESTION	(user option to send anonymous mail to Suggestion Box of Shared,Mail)
XMR-BROADCAST	Server for message braodcast to
Shared,Mail	
XMYB-BROADCAST	Server for message broadcast to all users

Option List by Name

The following option list includes information on the option name. Locks, option type, routine, entry action, exit action, menu text, and option description.

The options whose names begin with XMP and XMDX are not independently invocable or are for developer/support debugging only. They will never be on any menu. The XMP options are used as PackMan options and are used from the menus executed from ^DOPT("XMP").

XM-FTP-GET

Type: run routine

Routine: GET^XMAFTP

GET (Retrieve) File from Remote System

This option creates a background FTP task to retrieve a file from the remote host and place it on the local host.

XM-FTP-PUT

Type: run routine

Routine: PUT^XMAFTP

Send (Put) File to Remote Location

This option creates a background FTP task to send a file from a local host and place it on the remote host. Upon creating a background FTP task, each task is placed into the MailMan Outstanding FTP Transaction (File ^XMBX(4.2995)) for delivery.

XM-NEW-FEATURES

Type: action

Entry Action: S XQH="XM-NEW-FEATURES" D EN^XQH

Features New in Version 7.1 MailMan

This is a help frame that lists and describes new features in MailMan since many users do not get manuals.

XMASSUME

Type: run routine

Routine: ASM^XMA7

Entry Action: S XMMENU(0)="XMUSER"

Exit Action: D UNLOCK^XM K XMUSER

Assume another identity as a surrogate

This option allows a privileged user to act as a surrogate for another user.

XMAUTOPURGE

Type: run routine

Routine: EN^XMA3

Automatic Purge of MailMan Messages

This option automatically purges MailMan messages. It is designed to be run without a terminal.

XMBANNER

Type: edit

Banner edit

This option lets the user edit his "banner" message for MailMan.

XMBASKLIST

Type: action

Entry Action: D ENTM^XMUT1

List Contents of All Baskets

Use this option to get a list of all messages in your mail baskets. A short directory is produced that can be displayed or printed.

XMBLOSEND

Lock: XMBLOB

Type: run routine

Routine: BLOB^XMA2B

Entry Action: K XMLOAD,XMDF S XMMENU(0)="XMUSER"

Exit Action: D UNLOCK^XM K XMMENU

Send MultiMedia Message

This option is used to send MailMan MultiMedia messages to other users or groups of users. The sender of the message may request that a confirmation message be sent to him when each recipient reads the message. This option is not exported on a menu but can be assigned to a user by the system manager.

XMCHRIS

Type: run routine

Routine: KSP^XMYPOST

Christen a domain

This option is used to christen a domain, which is required before that domain may send or receive networked mail. The subordinate domain must first be initialized with the "initialize site" option at the local domain. Then this option must be selected in order to establish the network relationship.

XMCLEAN

Type: run routine

Routine: CLEAN^XMA3

Clean out waste baskets

This option will delete messages in each user's waste basket, without actually deleting the messages from the message file.

XMDIE SERVER

Type: run routine

Routine: XMDIE

File Message data into FileMan

This option takes the contents of a message, and files it into a FileMan file. The MailMan server queues this routine to run. This option is not associated with a menu.

XMDX

Type: menu

Diagnostics

This menu contains diagnostic options that allow the testing of various components of the MailMan system. This option is not associated with a menu.

XMEDIT-DOMAIN-VALIDATION

Type: run routine

Routine: VAL^XMC2

Validation Number Edit

This option allows sites to edit the validation numbers so that they can be synchronized. The sender and the receiver must edit the numbers concurrently. At S1.VA.GOV they edit S2.VA.GOV's validation number. At S2.VA.GOV they edit S1.VA.GOV's validation number. The same number is used for input at both sites.

XMEDIT-REMOTE-USER

Type: run routine

Routine: REMOTES^XMDIR1B

Enter/Edit Remote User

This option allows a single person's remote address to be put into the Remote User Directory so messages can be automatically addressed to him.

XMEDITBUL

Type: edit

Bulletin edit

This option allows a user to interactively enter/edit a MailMan bulletin, change the routing information, and document the bulletin.

XMEDITDIST

Type: edit

Edit Distribution List

Distribution Lists may be entered as part of the delivery list for messages in Mail Groups. They consist of a name and a list of domains that are concatenated to the name for delivery of a message to multiple mail-boxes, each of which has the same name that exists at different domains. If the Name is G.SUPPORT (it could be POSTMASTER), and the domains are FORUM.VA.GOV & ALTOONA.VA.GOV, the message will be send to:

G.SUPPORT@FORUM.VA.GOV and G.SUPPORT@ALTOONA.VA.GOV

Each distribution list may be added to more than one mail group. Each mail group may point at more than one distribution list.

XMEDITFWD

Lock: XMNET

Type: run routine

Routine: FWD^XMA21FWD

Forwarding Address Edit

This option is used to edit a user's forwarding address.

XMEDITMG

Type: edit

Mail group edit

This option is used to edit the Mail Group file, which controls the distribution of messages to groups of users.

XMEDITPERSGROUP

Type: run routine

Routine: ENT^XMA7G

Personal Group Enter/Edit

This option allows the user to create a personal group. A personal group is one that only he or she can access. Members can not remove themselves. It is only for the one user to use in addressing mail. The only difference between a personal group and a private one is that the personal group is restricted in its use and joining.

XMEDITUSER

Type: run routine

Routine: EDIT^XMA7

Edit user options

This option allows the user to edit his banner and his surrogate list.

XMENROLL

Type: run routine

Routine: JOIN^XMA7G

Group membership

This option allows a MailMan user to join and unjoin mail groups for which the "SELF ENROLLMENT ALLOWED?" flag is set to "yes". If the user is already a member of the group, then this option allows the user to leave the group. The user will only be able to join and unjoin public groups for which self-enrollment is allowed.

XMHELP

Type: menu

MailMan Help

This option provides help text for users.

XMHELP-ON-LINE-USER_MANUAL

Type: action

Entry Action: S XQHFY="XMHELP-MANUAL" D ACTION^XQH4

User Manual

This option will print out the MailMan on-line user manual.

XMHELPALL

Type: action

Entry Action: S XQH="XMHELP" D EN^XQH

MailMan general information

This is a general help frame that gives information about what MailMan is and does. It is a good starting point for the beginner MailMan user.

XMHELPGROUP

Type: run routine

Routine: GHELP^XMA7G

Group information

This option allows the user to get more detailed information about groups.

XMHELPLNK

Type: run routine

Routine: QQ3B^XMA5

MailLink Help

This option allows the user to get MailLink help.

XMHELPQUEST

Type: action

Entry Action: S XQH="XM-QUESTIONS" D EN^XQH

Questions and Answers on MailMan

This option contains commonly asked questions concerning MailMan and their answers.

XMHELPUSER

Type: run routine

Routine: UHELP^XMA7

User information

This option allows the user to get more detailed information about users.

XMKSP

Type: edit

Kernel Site Parameters for MailMan

This option allows a site manager to edit the fields in the Kernel Site Parameter file that do not have to do with christening. To christen a domain use the XMCHRIS option. XMCHRIS also will allow you to change fields set during the original christening if they are wrong. You may also use FileMan to edit the Transmission Script file if the scripts for Austin or the MINI engine need to be changed.

XMLATER-EDIT

Type: run routine

Routine: ENTE^XMB1

Change/Delete LATER'D Messages

This option allows the user to edit an entry that would cause a message to become new at a later date or to entirely delete that entry.

XMLATER-REPORT

Type: run routine

Routine: ENTR^XMB1

Report on LATER'D Messages

This option will print/display all LATER'D messages for the user who invoked it.

XMLIST

Type: run routine

Routine: LST^XMC2

List a transcript

This option lists the transcript for a previously executed script.

XMMASTER

Type: menu

MailMan Master Menu

This is the MailMan menu with all the addressable options:

- Manage MailMan (Utilities)

- Network Management

Exported Options
Option List by Name

User Options

XMMGR

Type: menu

Entry Action: K XMDUZ S XMMENU(0)="XMUSER" D EN^XM

Exit Action: D KILL^XM,UNLOCK^XM K XMMENU

Manage MailMan

This option allows the site manager to manage the MailMan system, by manipulating the Message, Mail Group, Bulletin, and Mail Box files.

XMMGR-BACKGROUND-FILER

Type: menu

Background Filer (XMAD)

This option allows access to the background filer. It is not assigned to a menu.

XMMGR-BKFILE-ACT

run routine

Routine: ACT^XMUT5R2

Active Users/Deliveries Report

This report lists in 1/2 hour intervals active users and messages deliveries made.

XMMGR-BKFILE-EDIT-NORMALIZED

Type: run routine

Routine: ASK^XMUT5R2

Edit numbers to Normalize Reports

This option allows the user to customize the normalized report.

XMMGR-BKFILE-GROUP

Type: run routine

Routine: GROUP^XMUT5R2

Deliveries by Group

This report lists in 1/2 hour intervals, deliveries made for each distinct delivery queue.

XMMGR-BKFILE-STAT

Type: run routine

Routine: STAT^XMUT5R2

Mail Delivery Statistics Report

This report list in 1/2 hour intervals: active users, queue waits, average response time, number of lines displayed to users.

XMMGR-BKFILE-TABBED-STATS

Type: run routine

Routine: TAB^XMUT5R2

Graphics Download (TAB separators)

This option can be used to capture a report and use the captured file in EXCEL or other graphics packages. The data has tabs between the fields as delimiters.

XMMGR-BKFILE-WAIT

Type: run routine

Routine: WAIT^XMUT5R2

Delivery Queues Wait Report

This report lists in 1/2 hour intervals the seconds that the oldest entry in a particular queue has been there. It is used to check how long is it taking to deliver messages. This option is not associated with a menu.

XMMGR-CHECK-BACKGROUND-FILER

Type: run routine Routine: XMUT5

CHECK background filer (XMAD)

This option tells you if the background filer is running and tells how many recipients need delivery for each of the messages/responses in the queue.

XMMGR-DELIVERY-STATS-COLL

Type: run routine Routine: OPTION^XMUT5Q1

Delivery Queue Statistics Collection

This option collects delivery queue statistics. Schedule the option through TaskMan, entering the initial time to start. Do NOT enter data in the remainder of the fields. The option will requeue itself automatically every half hour. All data collected is stored in file 4.2998.

XMMGR-DIRECTORY-ALL

Type: run routine Routine: ALL^XMDIRQST

Remote Directory from all Domains

This option schedules tasks to run in background to update MailLink directory ^XMD(4.2997). Use this option cautiously because it sends requests to all the Domains for soliciting remote user directories.

XMMGR-DIRECTORY-EDITGRP

Type: run routine Routine: EDIT^XMDIRQST

Enter/Edit Directory Request Flags by Group

This option allow the site management to control groups of domains from which directories are requested.

XMMGR-DIRECTORY-GROUP

Type: run routine Routine: GROUP^XMDIRQST

Group eMail Directory Request

This option allows site management to request directories from all the domains in a group of domains as defined in XMMGR-DIRECTORY-EDITGRP.

XMMGR-DIRECTORY-LISTGRP

Type: run routine Routine: LISTGRP^XMDIRQST

List eMail Directory Request by Groups

This option allows the site manager to list groups created by XMMGR-DIRECTORY-EDITGRP.

XMMGR-DIRECTORY-MAIN

Type: menu

Remote MailLink Directory Menu

This option allows the site manager to manage the remote MailLink directory, by loading the WANG/NOAVA directory and the remote domain user directory into the Remote User Directory file ^XMD(4.2997).

XMMGR-DIRECTORY-RECV

Type: server Routine: XMDIRRCV

RECEIVE E-MAIL DIRECTORY FROM OTHER SITE

This option is a server that receives a directory from another domain and puts the entries into the Remote User Directory file. It is not assigned to a menu.

XMMGR-DIRECTORY-SEND

Type: server Routine: XMDIRSND

Send a Directory to requesting site

Another MailMan Domain(s).

This option is a server that sends a directory to a requesting site. It is not assigned to a menu.

XMMGR-DIRECTORY-SINGLE

Type: run routine Routine: SINGLE^XMDIRQST

Request Mail Directory From a Single Domain Server

This option schedules a task to run in background to update the MailLink directory ^XMD(4.2997) from a single domain server.

XMMGR-DIRECTORY-VACO

Type: run routine Routine: OPTION^XMDIR1

Load Remote VACO (Wang/Noava) Directory

This option will load a file from Host File Server (HFS). The user has the choice whether to run this task interactively or schedule a batch job to update the MailLink directory.

XMMGR-DISK-MANY-MESSAGE-MAINT

Type: run routine Routine: XMAI2

Request Owners of Many Messages to do Maintenance

This option sends messages asking users to clean out mail boxes if they have too many messages.

XMMGR-DISK-SPACE-MANAGEMENT

Type: menu

Disk Space Management

This option allows access of disk space options.

XMMGR-GROUP-MAINTENANCE

Type: menu

Group/Distribution Management

This option is a submenu of Group/Distribution Management options.

XMMGR-HELP

Type: action

Entry Action: S XQH="XMMG-NEW-FEATURES" D EN^XQH

New Features for Managing MailMan

This option covers new features for managing MailMan.

XMMGR-IN-BASKET-PURGE

Type: run routine

Routine: XMAI

IN Basket Purge

THIS OPTION MAY BE RUN VIA THE TASKMANAGER!

This option purges IN Baskets a set number of days after sending the user a message listing the messages to be purged and actions the user may take to avoid losing the messages.

XMMGR-LARGE-MESSAGE-REPORT

Type: run routine

Routine: XMUT2

Entry Action: N XML S XML=100

Large Message Report

This report will list messages that either are longer than a specified number of lines (see field 8.14 in the Kernel Site Parameters - File 4.3). It will also list messages that have no owner or only one owner, no text, or no subject.

XMMGR-MAIL-GRP-COORD-W/REMOTES

Type: run routine

Routine: XMA7G1

Mail Group Coordinator's Edit W/Remotes

This option allows a mail group coordinator to edit the mail groups that he or she is the coordinator of (and no others). It allows edit of remote recipients. Most mail group coordinators should be given the corresponding option XMMGR-MAIL-GRP-COORDINATOR.

XMMGR-MAIL-GRP-COORDINATOR

Type: run routine

Routine: REMOTE^XMA7G1

Mail Group Coordinator's Edit

This option allows a mail group coordinator to edit the mail groups that he or she is the coordinator of (and no others). It does not allow edit of remote recipients. See XMMGR-MAIL-GRP-COORD-W/REMOTE.

XMMGR-MESSAGE-DELIVERY-MGT

Type: menu

Local Delivery Management

This is a submenu of options for the background filer.

XMMGR-NEW-MAIL-BOX

Type: action

Entry Action: W !,"Ready to set up mailbox - enter user's name below !",*7 D BOX^XM Q:+Y'>0 D NEW^XM W !,">>> DONE <<<",<7,!! Q

Create a Mailbox for a user

This option is meant to be used only on systems where Kernel 6 or later is not running (or when a repair must be made to the File 3.7). A mailbox is created for each new or reinstated user in Kernel 6 or later so there should be no need to use this routine unless there was an error setting up the user or there was a file degradation problem. Using this option for a user whose mailbox is partially or wholly set up will not cause data to be lost.

A mailbox may be created or repaired using this option.

XMMGR-NEWMESS/LOGON-STATS

Type: run routine

Routine: XMUT5R1

New Messages and Logon Statistics

This option prints the number of new messages created, logons, and logon minutes for a specified time period.

XMMGR-PURGE-AI-XREF

Type: run routine

Routine: XMUTPUR0

AI x-Ref Purge of Received Network Messages

This option maintains the "AI" cross reference of mail messages. This is the cross reference of messages received across the network and it prevents duplicate messages from being received again. The default number of days kept is 730 (2 years is the amount of days messages can exist before being purged on FORUM).

XMMGR-RESPONSE-TIME-COMPILER

Type: run routine

Routine: GO^XMUT5C

Compile Response Time Statistics

This option is a background job scheduled every day to collect statistics on the previous day's response time and put the data into file 4.2998. It will then KILL off the associated %ZRTL global nodes.

XMMGR-RESPONSE-TIME-TOGGLER

Type: run routine

Routine: LOGON^XMUT5C

Log Response Time Toggler

This option will do the following:

1. At a little after each half-hour, it will turn on the Kernel Site Parameter for response time logging.
2. It will then schedule another task to turn off the Kernel Site Parameter for response time logging unless the time is between 4 p.m. and 8 a.m. During these hours, response time logging will remain on unless site management interferes by canceling the tasks associated with this phenomenon and edits the LOG RESPONSE TIME field for the appropriate volume set to be off.

XMMGR-START-BACKGROUND-FILER

Type: action

Entry Action: S \$P(^XMB(1,1,0),U,16)=" D C^XMAD1 Q

START background filer (XMAD)

This option reverses the action that is taken when the XMMGR-STOP-BACKGROUND-FILER is run. It also will restart the background filer if it disappears from the system status report. In order for this option to be effective, the Task Manager (ZTM) must be running.

XMMGR-STOP-BACKGROUND-FILER

Type: action

Entry Action: S X=\$\$READ^XMAREAD("Are you sure you want the BACKGROUND FILERS to STOP delivering mail","Y","NO") I X=1 S \$P(^XMB(1,1,0),U,16)=1 Q:\$D(ZTQUEUED) W !,*7,"<<< Mail Deliveries will stop momentarily. >>>" Q

STOP background filer (XMAD)

Use this option to stop the background filer gently at the end of a delivery before it starts to deliver any further messages. This only stops local delivery operations. All local mail delivery will stop until the XMMGR-START-BACKGROUND-FILER option is run.

XMNET

Type: menu

Entry Action: K XMDUZ S XMMENU(0)="XMUSER" D EN^XM

Exit Action: D KILL^XM,UNLOCK^XM K XMMENU

Network Management

This menu allows the user to control the network by editing, playing, and listing scripts; managing domains; christening subordinate domains; and controlling pollers.

XMNET-QUEUE-MANAGEMENT

Type: menu

Queue Management

This is a submenu for queue management.

XMNET-TRANSMISSION-MANAGEMENT

Type: menu

Transmission Management

This is a menu with options having to do with network transmissions.

XMNET-TWIX-SEND

Type: run routine

Routine: XMRPCTS

Send a TWIX via PCTS

This option is to be used to send messages formatted especially as TWIXs to be sent via the PCTS system. It is not assigned to a menu.

XMNET-TWIX-TRANSMIT

Type: run routine

This option is used to transmit a TWIX over the network. It is not assigned to a menu.

XMNETHELP

Type: action

Entry Action: S XQH="XMNETWORK*" D EN^XQH

Network Help

This option displays all network help frames.

XMNEW

Type: action

Entry Action: K XMDF D SCANNEW^XMA

Exit Action: D UNLOCK^XM K XMMENU

New messages and responses

This option is used to scan a user's mailboxes for messages which are either new or have had some unseen response.

XMOTHER

Type: menu

Other MailMan Functions

This is the MailMan menu for special user activities.

XMOTHER-COMMUNICATIONS

Type: Menu

Communications

This submenu gives the user the ability to send and receive files.

XMPACK

Lock: XUPROGMODE

Type: action

Entry Action: S XMLOAD=1 D SEND^XMA2 K XMLOAD

Exit Action: D UNLOCK^XM K XMMENU

Load PackMan Message

This option is used to access PackMan.

XMPCOM

Type: run routine

Routine: XC^XMP2

Compare message

This option compares the message with the currently installed version of the package, informing the user of the differences on a line by line basis.

XMPDAT

Type: run routine

Routine: EN^XMD

File load

This loads data according to the FileGram format.

XMPGLO

Type: run routine

Routine: LOAD^XMPG

Global load

This option loads data into the message from the global subtree indicated.

XMPINS

Type: run routine

Routine: XI^XMP2

Install Package & Run Inits

This option installs the package contained in the message into the active area. It permanently updates the routines, globals, and files in doing so.

XMPOLL

Type: run routine

Routine: POLL^XMS1

POLL REMOTE NODES

This option plays the scripts to domains whose flags contain a "P".

XMPOLLSTART

Type: run routine

Routine: Q^XMC

*Obsolete - Start Poller

This option will start the poller logic so that a given script is invoked at the requested frequency.

XMPOLLSTOP

Type: run routine

Routine: Q^XMC

*Obsolete - Stop Poller

This option stops a previously started poller.

XMPOST

Type: run routine

Routine: BULL^XMB

Post a bulletin

This option allows a user to manually post a bulletin to test its operation.

XMPprt

Type: run routine

Routine: XP^XMP2

Print message (formatted)

This option prints the message in a neatly formatted form. Global data is preceded by its subscript, routines are wrapped around and fitted one per page.

XMPRECV

Type: menu

Package received

This menu will let you print, compare, and load a PackMan message. It is not assigned to a menu.

XMPROU

Type: run routine

Routine: LOAD^XMPH

Routine load

This option loads routines from the routine library to the message. Routines may be named individually, or with the traditional "*" notation.

XMPSend

Lock: XUPROG

Type: menu

Routine: ADM^YTS

Send Package transfer (PackMan)

This option allows the user to load routines, globals, files, and data dictionaries. It is not assigned to a menu.

XMPSUM

Type: run routine

Routine: XS^XMP2

Summarize message

This option summarizes the message, listing each packet in the package, along with its line number. It does not list the contents in each packet, the Print option does that.

XMPURGE

Type: action

Entry Action: D SCAN^XMA3

Purge Unreferenced Messages

This option will purge the mail system of all messages which are no longer needed.

XMPURGE-BY-DATE

Lock: XMMGR

Type: run routine

Routine: XMA32

Purge Messages by Origination Date

This option will remove messages from users' mail baskets, then delete them along with any responses chained to them. It will do this for a range of messages based upon user input. The user enters the range of internal message numbers that will be processed and the date against which they will be checked. You must hold the XMMGR key to run this option.

XMQACTIVE

Type: run routine

Routine: GO^XMS5

Actively Transmitting/Receiving Queues Report

This report shows only those queues that are currently (right now) transmitting or receiving messages. It will state the message numbers and the approximate line number in progress and the characters per second.

XMQDELETE

****OBSOLETE***

XMQDISP

Type: action

Entry Action: D ^XMS5A

Exit Action: D KILL^XM

Display Active & Inactive Message Queues

Used by the Postmaster to display the message queues of network sites.

XMQHIST is another option that produces a similar report as XMQHIST.
XMQHIST is a newer report and gives the data in a more condensed format.

XMQDOMAINS

Type: run routine

Routine: XMYPOSD

Compare Domains in System Against Released List

There is a list of domains released with the Kernel. It is in a table in routine XMYPOSD which is run against the Domain file either with this option or as part of the XMINITs. A report is generated with all the known domains at the time of the release (the domain file is constantly updated). Those domains not on file at the site are listed and flagged. A summary of the report is also given.

XMQHIST

Type: run routine

Routine: XMS4

Historical Queue Data/Stats Report

This option generates a report about network transmission queues.

XMQSHOW

Type: action

Entry Action: D QUEUE^XMC4

Show a queue

Show all of the messages waiting transmission for a given queue.

XMQUEUED

Type: action

Entry Action: D ENT^XMS5

Queues with Messages to Transmit Report

This option produces a report of all those queues that have messages to go out. The list does not say whether there is or is not a task scheduled to send them. Requeuing them is okay even if there is already a task to go out.

XMR-BROADCAST

Type: Server

Routine: ENT^XMGAPI3(.6)

(no menu text)

This option broadcasts a message to Shared,Mail. XMGAPI3 is invoked with one parameter. If this parameter is an asterisk "*", the message is sent to all (users with) Mail Boxes. If this parameter is a number, the message is sent only to the one user whose mail box is indexed by that number (.6 will send it to Shared,mail).

In both cases above the message will be marked with a vaporization date for each user it is delivered to. The IN-BASKET-PURGE must be running for vaporization dates to be processed properly.

If there is a problem a non-zero number followed by " - ". followed 15>by a human readable notice is returned" If all went well, the string "0 - Successfully delivered the message !" is returned.

XMR-SEQ-RECEIVE

Type: run routine

Routine: BAT^XMR0

Entry Action: D EN^XM

Exit Action: D KILL^XMAK

Sequential Media Message Reception

This is the converse procedure to XMS-SEQ-TRANSMIT. Please refer to the description of XMS-SEQ-TRANSMIT for more information.

XMR-UCI-RCV

Type: run routine

Routine: TASKER^XMR

RECEIVE MESSAGES FROM OTHER UCI

This option is the corollary to another called Send Messages To Other UCI. The SEND side loads messages into the %ZTSK global. The RECEIVE side reads messages from the %ZTSK global.

XMR-UCI-SEND

Type: run routine

Routine: TASKER^XMS

SEND MESSAGES TO ANOTHER UCI

This option is the corollary to one called Receive Messages From Another UCI. Please see the description of that option for further information.

XMREAD

Type: run routine

Routine: REC^XMA

Entry Action: D UNLOCK^XM K XMMENU

Read a message

This option is used to read MailMan messages. The user will be asked for a mail basket, which is normally the IN basket. Deleted messages may be seen by reading the WASTE basket. Once read, messages may be deleted, saved into other mail baskets, forwarded to other users, edited, or queried for information regarding other recipients of the message.

XMS-SEQ-TRANSMIT

Type: run routine

Routine: BAT^XMS

Entry Action: D EN^XM

Exit Action: D KILL^XMAK

Sequential Media Queue Transmission

This option allows the recording of a queue of messages onto sequential media. The messages so recorded may be read into another MailMan system. The Sequential Media Message Reception option is the converse process.

XMSCRIPTEDIT

Type: run routine

Routine: EDIT^XMC11

Edit a script

This option allows the creation of a script for a given domain.

XMSCRIPTPLAY

Type: run routine

Routine: GO^XMC11

Play a script

This option interprets the chosen script.

XMSCRIPTRES

Type: run routine

Routine: RES^XMC11

Resume processing a script

This option allows the user to resume the interpretation of a script, with manual intervention. It is not assigned to a menu.

XMSEARCH

Type: run routine

Routine: XMAL0A

Entry Action: S XMMENU(0)="XMUSER" D EN^XM

Exit Action: D KILL^XMAK,UNLOCK^XM K XMMENU

Message Search by Sender/Date

This option allows for a search for messages by date or by message sender.

XMSEND

Type: action

Entry Action: K XMLOAD,XMDF S XMMENU(0)="XMUSER" D SEND^XMA2

Exit Action: D UNLOCK^XM K XMMENU

Send a Message

This option is used to send MailMan messages. Messages may be sent to other users or groups of users. The sender of the message may request that a confirmation message be sent to him when each recipient reads the message.

XMSHARE

Type: run routine

Routine: SHARE^XMA7

Entry Action: S XMDUZ=.6,XMPRIV="y^y" K XMDF

Exit Action: I '\$D(DUZ("SAV")) D ID0^XMA7

Assume the Identity of SHARED,MAIL

Use this option to assume the identity of a special user, SHARED,MAIL, so that you may read mail send to the general public. Users who own the XMNOPRIV key may not do this. SHARED,MAIL is a place to send messages of general interest. The privilege of being a surrogate of SHARED,MAIL may be taken away.

XMSITE

Type: action

Entry Action: S DR=".01;1;3;5;5.11:5.13;7;8.2",DIE="^XMB(1,",DA=1 D ^DIE W !!,"Editing Postmaster information" S DR="4;4.5;8",DIE="^XMB(3.7,",DA=.5 D ^DIE K DIE,DR,DA

Site Parameters.

This option allows the network manager to control local site parameters, names, time zone, etc.

XMSTARTQUE

Type: run routine

Routine: Q^XMC2

Transmit a Single Queue

If messages are queued in the Postmaster box for a given domain, that domain can begin transmitting those messages by invoking this option. Messages may be sitting in a queue for a variety of reasons (transmission failure, waiting for poller to run, etc.) This option will attempt to send these messages by creating a TaskManager job which will deliver the messages for the domain requested.

XMSTARTQUE-ALL

Type: run routine

Routine: REQUE^XMS5

Transmit All Queues

If messages are queued in the Postmaster's baskets for a number of domains, TaskManager jobs that will transmit them over the network can be created for all of them by using this option. A domain's queue will not be requeued if it is already set up as a scheduled TaskManager job. Nor will it be requeued if it is empty or in the process of transmitting.

XMSTAT

Type: run routine

Routine: STAT^XMA3

Message statistics

This option is used to display the information about the Message (3.9) and Mailbox (3.7) files. First it displays a history of messages kept and purged by XMAUTOPURGE. You may delete unwanted dates through FileMan, but XMAUTOPURGE enters new data when it completes successfully.

Also displayed are detailed statistics in detail about messages held in each user's mailbox. The total number of messages and other information about each user is given.

XMSUBEDIT

Type: action

Entry Action: D EDITSC^XMC11

Subroutine editor

This option edits transmission script subroutines.

XMSUGGESTION

Type: run routine

Routine: XMANON

Suggestion Box

This tag allows the Anonymous user to send mail, only to the Shared,Mail user, into a mail basket called SUGGESTION BOX, created on the fly if it doesn't already exist. Users who have access to this option will be able to send mail to this "suggestion box" anonymously. MailMan carefully fails to record the actual identity of the sender. The option has been used successfully in TQM (Total Quality Management) programs, allowing for people to voice complaints and concerns anonymously.

To use this option, put the XMSUGGESTION option onto the appropriate menu. To stop a particular person from using it, put a "Reverse/negative Lock" onto the XMSUGGESTION option and assign that key to the people you do not want to be able to use it. This option is not assigned to a menu.

XMTALK

Lock: XMTALK

Type: run routine

Routine: TALK^XMC

TalkMan

TalkMan allows the user to communicate with another domain through the script processing ability of MailMan. Since the script processing mode is transparent, the user need not know any security passwords. He only needs to know the name of the Domain and have access to the option. In addition the script for the domain must have a "T" command and the FLAGS field must contain a "T".

XMTEST

Type: action

Entry Action: D ^XMSER

TEST SERVER

This is the Test Server option.

XMUSER

Type: menu

Entry Action: K XMDUZ,^XUTL("XQ",\$J,"XMDUZ"),X MDF S

XMMENU(0)="XMUSER" D EN^XM

Exit Action: K ^XUTL("XQ",\$J,"XMDUZ") D KILL

^XM,UNLOCK^XM K XMMENU

MailMan Menu

This is the main MailMan menu for normal user interaction. It allows the user to send and receive messages, as well as manage his baskets.

XMUT-CHKFIL

Lock: XUPROG

Type: run routine

Routine: XMUT4A

Check MailMan Files for Errors

This process will go through the MailMan system files (Mailboxes, and Messages) and check for errors in cross references and very important fields. It should not be run everyday. It should be run after any database problem, or whenever the system has gone down without the MailMan background filer being stopped gracefully.

XMUT-REC-DELETE

Type: run routine

Routine: DEL^XMUT1A

Delete Found Messages from Found Messages List

This option deletes the temporary storage of a list of messages found when the "Find Messages for User" option is used by user.

XMUT-REC-DELIVER

Type: run routine

Routine: G^XMUT1

Deliver Found Messages into User's IN Basket

Use this procedure to deliver the messages found with the Find Messages for User option. The messages found will be placed into the user's IN basket if they are not already in another basket.

XMUT-REC-FIND

Type: run routine

Routine: A^XMUT1

Find Messages for User

Use this option to find all the messages that a user has ever had and has not terminated from. This list of messages can be used as input into two other processes: Deliver Found Messages into User's IN Basket and List Messages Found.

XMUT-REC-MENU

Lock: XUPROG

Type: menu

Recover Messages into User's IN Basket

This menu is recovers messages that have inadvertently been lost. It will recover all the messages a user has ever received and is not terminated from. The steps are reviewed in the help documentation. (Enter ?HELP to see the HELP documentation.)

XMUT-REC-RPT

Type: run routine

Routine: LIST^XMUT1A

List Messages Found

Use this procedure to list the messages found for users with the procedure Find Messages for User.

XMYB-BROADCAST

Type: Server

Routine: ENT^XMGAPI3("*")

(no menu text)

This option broadcasts a message to all users. XMGAPI3 is invoked with one parameter. If this parameter is an asterisk "*", the message is sent to all (users with) Mail Boxes. If this parameter is a number, the message is sent only to the one user whose mail box is indexed by that number (.6 will send it to Shared,mail).

In both cases above the message will be marked with a vaporization date for each user it is delivered to. The IN-BASKET-PURGE must be running for vaporization dates to be processed properly.

Cross-References

MailMan uses the following cross-references in addition to the standard "B" cross-reference.

COMMUNICATIONS PROTOCOL - File: 3.4

```
(3.4,.01) NAME                                0;1
  Xref 1: 3.4^B
  Set: S ^DIC(3.4,"B",$E(X,1,30),DA)=" "
  Kill: K ^DIC(3.4,"B",$E(X,1,30),DA)

(3.4,1) SEND                                  1;E1,200
(3.4,2) RECEIVE                              2;E1,200
(3.4,3) OPEN                                 3;E1,200
(3.4,4) CLOSE                                4;E1,200
(3.4,5) DESCRIPTION                          5;0      (Multiple)
  (3.41,.01) DESCRIPTION                     0;1
```

BULLETIN - File: 3.6

```
(3.6,.01) NAME                                0;1
  Xref 1: 3.6^B
  Set: S ^XMB(3.6,"B",$E(X,1,30),DA)=" "
  Kill: K ^XMB(3.6,"B",$E(X,1,30),DA)

(3.6,2) SUBJECT                              0;2
(3.6,4) MAIL GROUP                           2;0      (Multiple)
  (3.62,.01) MAIL GROUP                      0;1
    Xref 1: 3.62^B
    Set: S ^XMB(3.6,DA(1),2,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.6,DA(1),2,"B",$E(X,1,30),DA)

(3.6,6) DESCRIPTION                          3;0      (Multiple)
  (3.63,.01) DESCRIPTION                     0;1
(3.6,10) MESSAGE                             1;0      (Multiple)
  (3.61,.01) MESSAGE                         0;1
(3.6,11) PARAMETER                           4;0      (Multiple)
```

Cross References

(3.64,.01) PARAMETER 0;1
(3.64,1) DESCRIPTION 1;0 (Multiple)
(3.65,.01) DESCRIPTION 0;1

MAIL BOX - File: 3.7

(3.7,.001) NUMBER
(3.7,.01) NAME 0;1
Xref 1: 3.7^B
Set: S ^XMB(3.7,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.7,"B",\$E(X,1,30),DA)
(3.7,.3) MAIL NAME .3;1
Xref 1: 3.7^C
Set: S ^XMB(3.7,"C",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.7,"C",\$E(X,1,30),DA)
Desc: This cross reference is used to ensure that names for this field
will be unique. It is also used for look-up by the name-server
for incoming network mail and local mail.
(3.7,1) BASKET 2;0 (Multiple)
(3.701,.01) BASKET 0;1
Xref 1: 3.701^B
Set: S ^XMB(3.7,DA(1),2,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.7,DA(1),2,"B",\$E(X,1,30),DA)
(3.701,1) MESSAGE 1;0 (Multiple)
(3.702,.01) MESSAGE 0;1
Xref 1: 3.702^B
Set: Q
Kill: K ^XMB(3.7,DA(2),2,DA(1),1,"B",\$E(X,1,30),DA)
Xref 2: 3.7^M
Set: S ^XMB(3.7,"M",\$E(X,1,30),DA(2),DA(1),DA)=" "
Kill: K ^XMB(3.7,"M",\$E(X,1,30),DA(2),DA(1),DA)
Xref 3: 3.701^N0^MUMPS
Set: I \$P(^XMB(3.7,DA(2),2,DA(1),1,DA,0),U,3)
S ^XMB(3.7,DA(2),"N0"
,DA(1),DA)=" "
Kill: K ^XMB(3.7,DA(2),"N0",DA(1),DA)
Desc: This cross reference is for new messages.

```

Xref 4: 3.702^N^MUMPS
Set: I $P(^XMB(3.9,DA,0),U,7)["P"
      S ^XMB(3.7,DA(2),"N",DA(1),DA)=" "

Kill: K ^XMB(3.7,DA(2),"N",DA(1),DA)
Desc: This cross reference is used to store the Priority
      messages received.

(3.702,1) *RETRIEVAL KEYWORDS                                1;1
Xref 1: 3.701^C^KWIC

(3.702,2) MAILBOX INDEX                                      0;2
Xref 1: 3.702^C
Set: S ^XMB(3.7,DA(2),2,DA(1),1,"C",$E(X,1,30),DA)=" "
Kill: K ^XMB(3.7,DA(2),2,DA(1),1,"C",$E(X,1,30),DA)

(3.702,3) NEW FLAG                                          0;3

(3.702,4) LAST DATE READ                                    0;4

(3.702,5) AUTOMATIC DELETE DATE                            0;5
Xref 1: 3.7^AC
Set: S ^XMB(3.7,"AC",$E(X,1,30),DA(2),DA(1),DA)=" "
Kill: K ^XMB(3.7,"AC",$E(X,1,30),DA(2),DA(1),DA)

(3.702,6) NETWORK MESSAGE FLAG                              0;6
Xref 1: 3.701^AC
Set: S ^XMB(3.7,DA(2),2,"AC",$E(X,1,30),DA(1),DA)=" "
Kill: K ^XMB(3.7,DA(2),2,"AC",$E(X,1,30),DA(1),DA)

(3.701,2) # NEW MESSAGES IN BASKET                          0;2

(3.701,3) FIRST POTENTIAL EMPTY SLOT                       0;3
(3.701,4) HIGHEST SLOT NUMBER                              0;4

(3.701,5) NUMBER OF MESSAGES IN BASKET                      0;5

(3.7,1.1) # NEW MESSAGES FOR USER                          0;6

(3.7,1.2) MESSAGE @ REINSTATEMENT                          0;7

(3.7,2) FORWARDING ADDRESS                                  0;2
Xref 1: ^^BULLETIN MESSAGE
Desc: This cross reference makes sure that someone is notified when a
      user creates a new FORWARDING ADDRESS if there is a member of
      the POSTMASTER mail group. It also sends out a test message
      (from the POSTMASTER) that will generate an error message to the
      POSTMASTER if the new FORWARDING ADDRESS is not correct.

(3.7,2.1) LOCAL DELIVERY FLAG                              0;8

```

Cross References

(3.7,2.21) NETWORK SIGNATURE LINE 1 OF 3	NS1;1	
(3.7,2.22) NETWORK SIGNATURE LINE 2 OF 3	NS1;2	
(3.7,2.23) NETWORK SIGNATURE LINE 3 OF 3	NS1;3	
(3.7,3) LATEST MAILMAN ACCESS	L;1	
(3.7,3.1) LATEST MAILMAN ACCESS DATE	L;2	
(3.7,3.2) LAST MAILMAN ACCESS USER ID	L;3	
(3.7,4) BANNER	B;1	
Xref 1: ^^BULLETIN MESSAGE		
Desc: This cross reference sends a bulletin whenever a banner is changed or created.		
(3.7,4.5) INTRODUCTION	1;0	(Multiple)
(3.704,.01) INTRODUCTION	0;1	
(3.7,4.6) PHONE NUMBERS	0;4	
(3.7,4.7) ADDRESS	3;0	(Multiple)
(3.705,.01) ADDRESS	0;1	
(3.7,5) MESSAGE BEING EDITED	T;1	
Xref 1: 3.7^AD^MUMPS		
Set: S ^XMB(3.7,"AD",DA,X)=""		
Kill: K ^XMB(3.7,"AD",DA,X)		
Desc: This cross reference is used to keep track of the message currently being edited.		
(3.7,6) *LAST RESPONSE SEEN	T;2	
(3.7,7) MESSAGE BEING RESPONDED TO	T;3	
(3.7,8) SURROGATE	9;0	(Multiple)
(3.703,.01) SURROGATE	0;1	
Xref 1: 3.7^AB		
Set: S ^XMB(3.7,"AB", \$E(X,1,30),DA(1),DA)=""		
Kill: K ^XMB(3.7,"AB", \$E(X,1,30),DA(1),DA)		
(3.703,1) READ PRIVILEGE	0;2	
(3.703,2) SEND PRIVILEGE	0;3	
(3.7,9) MAILMAN INSTITUTION	6000;1	
(3.7,10) ALREADY SIGNED ON TO DEVICES	10;0	(Multiple)

```

(3.706,.01) ALREADY SIGN ON TO DEVICES                                0;1
    Xref 1: 3.706^P
    Set: S ^XMB(3.7,DA(1),10,"P",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.7,DA(1),10,"P",$E(X,1,30),DA)

(3.706,1) PRIORITY                                                    0;2

(3.7,11) MESSAGE ACTION DEFAULT                                      0;9

(3.7,12) ASK BASKET?                                                0;5

(3.7,13) SHOW TITLES                                                0;10

(3.7,14) PRIORITY RESPONSES FLAG                                    0;11

(3.7,14.1) PRIORITY RESPONSES PROMPT                                0;12

(3.7,20) LAST SYSTEM SIGNON DATE/TIME                              .1;1

(3.7,21) TERMINAL TYPE LAST USED                                    .2;1

(3.7,99) RETENTION DAYS                                             0;3
    MESSAGES TO BE NEW AT A LATER DATE - File: 3.73

(3.73,.01) DATE MESSAGE WILL BE NEW                                0;1

(3.73,1) USER                                                        0;2
    Xref 1: 3.73^C
    Set: S ^XMB(3.73,"C",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.73,"C",$E(X,1,30),DA)
    Com: This cross reference is used to drive the Later'd Messages
        Report. Do not delete.
    Desc: SEE NO-DELETION MESSAGE.

(3.73,2) MESSAGE                                                    0;3
    Xref 1: 3.73^AB^MUMPS
    Set: S % = ^XMB(3.73,DA,0), ^XMB(3.73,"AB",+%, $P(% ,U,2),X,DA) = " " K %
    Kill: S % = ^XMB(3.73,DA,0) K ^XMB(3.73,"AB",+%, $P(% ,U,2),X,DA), %
    Desc: This cross reference keeps track of the dates that messages will
        become new one. Many dates are kept track of for each message.

    Xref 2: 3.73^AC^MUMPS
    Set: S % = ^XMB(3.73,DA,0) S ^XMB(3.73,"AC", $P(% ,U,3), $P(% ,U,2),DA) = " "
        K %
    Kill: S % = ^XMB(3.73,DA,0) K ^XMB(3.73,"AC", $P(% ,U,3), $P(% ,U,2),DA), %
    Desc: This cross reference keeps track of messages that will become
        new later for a particular mail box.

```

Cross References

MAIL GROUP - File: 3.8

(3.8,.01) NAME 0;1
Xref 1: 3.8^B
Set: S ^XMB(3.8,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.8,"B",\$E(X,1,30),DA)

(3.8,2) MEMBER 1;0 (Multiple)
(3.81,.01) MEMBER 0;1
Xref 1: 3.81^B
Set: S ^XMB(3.8,DA(1),1,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.8,DA(1),1,"B",\$E(X,1,30),DA)

Xref 2: 3.8^AB
Set: S ^XMB(3.8,"AB",\$E(X,1,30),DA(1),DA)=" "
Kill: K ^XMB(3.8,"AB",\$E(X,1,30),DA(1),DA)

(3.8,3) DESCRIPTION 2;0 (Multiple)
(3.801,.01) DESCRIPTION 0;1

(3.8,4) TYPE 0;2

(3.8,5) ORGANIZER 3;1

(3.8,5.1) COORDINATOR 0;7
Xref 1: 3.8^AC
Set: S ^XMB(3.8,"AC",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.8,"AC",\$E(X,1,30),DA)

(3.8,6) AUTHORIZED SENDER 4;0 (Multiple)
(3.802,.01) AUTHORIZED SENDER 0;1
Xref 1: 3.802^B
Set: S ^XMB(3.8,DA(1),4,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.8,DA(1),4,"B",\$E(X,1,30),DA)

(3.8,7) ALLOW SELF ENROLLMENT? 0;3

(3.8,8) REFERENCE COUNT 0;4

(3.8,9) LAST REFERENCED 0;5

(3.8,10) RESTRICTIONS 0;6

(3.8,11) MEMBER GROUPS 5;0 (Multiple)
(3.811,.01) MEMBER GROUP NAME 0;1
Xref 1: 3.811^B
Set: S ^XMB(3.8,DA(1),5,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(3.8,DA(1),5,"B",\$E(X,1,30),DA)

(3.8,12) MEMBERS - REMOTE 6;0 (Multiple)

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(3.812,.01) REMOTE MEMBERS                                0;1
    Xref 1: 3.812^B
    Set: S ^XMB(3.8,DA(1),6,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.8,DA(1),6,"B",$E(X,1,30),DA)

(3.8,13) DISTRIBUTION LIST                                7;0      (Multiple)

(3.813,.01) DISTRIBUTION LIST                              0;1
    Xref 1: 3.813^B
    Set: S ^XMB(3.8,DA(1),7,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.8,DA(1),7,"B",$E(X,1,30),DA)

DISTRIBUTION LIST - File: 3.816

(3.816,.01) NAME                                          0;1
    Xref 1: 3.816^B
    Set: S ^XMB(3.816,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.816,"B",$E(X,1,30),DA)

(3.816,1) DOMAIN                                          1;0      (Multiple)

(3.8161,.01) DOMAIN                                       0;1
    Xref 1: 3.8161^B
    Set: S ^XMB(3.816,DA(1),1,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.816,DA(1),1,"B",$E(X,1,30),DA)

MESSAGE - File: 3.9

(3.9,.001) NUMBER

(3.9,.01) SUBJECT                                         0;1
    Xref 1: 3.9^B
    Set: S ^XMB(3.9,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(3.9,"B",$E(X,1,30),DA)

(3.9,1) FROM                                              0;2
    Xref 1: 3.9^C
    Set: S ^XM("C",X,DA)=" "
    Kill: K ^XM("C",X,DA)

(3.9,1.1) SENDER                                          0;4

(3.9,1.3) Confirmation requested?                        0;5

(3.9,1.35) ORIGINAL MESSAGE                              0;8

(3.9,1.4) DATE ENTERED                                    0;3

(3.9,1.7) MESSAGE TYPE                                    0;7

(3.9,1.8) SCRAMBLE HINT                                    0;10

```

Cross References

(3.9,1.85) SCRAMBLE KEY	K;E1,30	
(3.9,1.9) LOCK	4;E1,200	
(3.9,1.95) CLOSED MESSAGE?	0;9	
(3.9,1.96) CONFIDENTIAL?	0;11	
(3.9,1.97) INFORMATION ONLY?	0;12	
(3.9,2) RECIPIENT	1;0	(Multiple)
(3.91,.01) RECIPIENT	0;1	
(3.91,1) LAST RESPONSE READ	0;2	
Xref 1: 3.91^C		
Set: S ^XMB(DA(1),1,"C",\$E(X,1,30),DA)=" "		
Kill: K ^XMB(DA(1),1,"C",\$E(X,1,30),DA)		
(3.91,2) DATE LAST READ	0;3	
(3.91,3) REMOTE MESSAGE ID	0;4	
(3.91,4) TRANSMISSION DATE	0;5	
(3.91,5) STATUS	0;6	
(3.91,6) PATH	0;7	
Xref 1: 3.91^AQUEUE		
Set: S ^XMB(3.9,DA(1),1,"AQUEUE",\$E(X,1,30),DA)=" "		
Kill: K ^XMB(3.9,DA(1),1,"AQUEUE",\$E(X,1,30),DA)		
Desc: This cross reference makes it possible for network mail		
transmissions to immediately find the recipients to transmit		
a message to.		
(3.91,6.5) TYPE OF RECIPIENT	T;1	
(3.91,6.6) APPROVAL	T;2	
(3.91,7) TERMINATION DATE	D;1	
(3.91,8) FORWARDED BY	F;1	
(3.91,8.01) FORWARDED BY (XMDUZ)	F;2	
(3.91,8.5) COPIED BY:	C;1	
(3.91,9) NETWORK TRANSMISSION TIME	0;8	
(3.91,10) PRIORITY RESPONSES ?	0;9	
(3.91,11) DATE FIRST READ	0;10	
(3.9,3) TEXT	2;0	(Multiple)
(3.92,.01) TEXT	0;1	

(3.9,8) RESPONSE 3;0 (Multiple)

(3.9001,.01) RESPONSE 0;1

(3.9,8.5) SCRAMBLE KEY K;E1,200

(3.9,8.6) SURROGATE READER S;1

(3.9,9) INCOMING MESSAGE ID 5;1

Xref 1: 3.9^AI^MUMPS

Set: S ^XMBX(3.9,"AI",\$E(X,1,30),DA)=\$P(^XMB(3.9,DA,0),U,3)

Kill: K ^XMBX(3.9,"AI",\$E(X,1,30),DA)

Desc: This cross reference keeps track of messages that have already been received from other sites.

(3.9,10) ADDRESSED TO 6;0 (Multiple)

(3.911,.01) ADDRESSED TO 0;1

Xref 1: 3.911^B

Set: S ^XMB(3.9,DA(1),6,"B",\$E(X,1,30),DA)=""

Kill: K ^XMB(3.9,DA(1),6,"B",\$E(X,1,30),DA)

(3.9,2005) OBJECTS - OTHER BODY PARTS 2005;0 (Multiple)

(3.92005,.01) OBJECTS - OTHER BODY PARTS 0;1

Xref 1: 3.92005^B

Set: S ^XMB(3.9,DA(1),2005,"B",\$E(X,1,30),DA)=""

Kill: K ^XMB(3.9,DA(1),2005,"B",\$E(X,1,30),DA)

DOMAIN - File: 4.2

(4.2,.01) NAME 0;1

Xref 1: 4.2^B

Set: S ^DIC(4.2,"B",\$E(X,1,30),DA)=""

Kill: K ^DIC(4.2,"B",\$E(X,1,30),DA)

(4.2,1) FLAGS 0;2

Xref 1: 4.2^AC^MUMPS

Set: I X["P" S ^DIC(4.2,"AC","P",DA)=""

Kill: K ^DIC(4.2,"AC","P",DA)

Desc: This cross reference keeps track of domains that have the polling flag on.

(4.2,1.5) SECURITY KEY 0;11

(4.2,1.6) VALIDATION NUMBER 0;15

(4.2,1.7) DISABLE TURN COMMAND 0;16

(4.2,2) RELAY DOMAIN 0;3

(4.2,4) TRANSMISSION SCRIPT 1;0 (Multiple)

Cross References

(4.21,.01) TRANSMISSION SCRIPT	0;1	
(4.21,1) PRIORITY	0;2	
Xref 1: 4.21^AC		
Set: S ^DIC(4.2,DA(1),1,"AC",\$E(X,1,30),DA)=""		
Kill: K ^DIC(4.2,DA(1),1,"AC",\$E(X,1,30),DA)		
Desc: This cross reference controls which transmission script will be used to transmit messages. The highest priority script will be used first. Low numbers mean high priority.		
(4.21,1.1) NUMBER OF ATTEMPTS	0;3	
(4.21,1.2) TYPE	0;4	
(4.21,1.3) PHYSICAL LINK / DEVICE	0;5	
(4.21,1.4) NETWORK ADDRESS (MAILMAN HOST)	0;6	
(4.21,2) TEXT	1;0	(Multiple)
(4.22,.01) TEXT	0;1	
(4.21,99) TRANSMISSION SCRIPT NOTES	NOTES;0	(Multiple)
(4.299,.01) NOTES	0;1	
(4.2,4.2) NOTES	5;0	(Multiple)
(4.25,.01) NETWORK NOTES	0;1	
(4.2,5) SYNONYM	2;0	(Multiple)
(4.23,.01) SYNONYM	0;1	
Xref 1: 4.2^C		
Set: S ^DIC(4.2,"C",\$E(X,1,30),DA(1),DA)=""		
Kill: K ^DIC(4.2,"C",\$E(X,1,30),DA(1),DA)		
(4.2,5.5) STATION	0;13	
(4.2,6) MCTS ROUTING INDICATOR	0;4	
(4.2,6.2) DHCP ROUTING INDICATOR	0;14	
Xref 1: 4.2^AD		
Set: S ^DIC(4.2,"AD",\$E(X,1,30),DA)=""		
Kill: K ^DIC(4.2,"AD",\$E(X,1,30),DA)		
(4.2,6.5) MAILMAN HOST	0;12	
(4.2,6.6) FTP BLOB IP ADDRESS	IP;1	

```

(4.2,6.61) TCP/IP POLL FLAG                                P;1
  Xref 1: 4.2^D
    Set: S ^DIC(4.2,"D",$E(X,1,30),DA)=" "
    Kill: K ^DIC(4.2,"D",$E(X,1,30),DA)
    Com: If this cross reference is deleted, netmail may not be
          transmitted.

  Xref 2: 4.2^ATCP
    Set: S ^DIC(4.2,"ATCP",$E(X,1,30),DA)=" "
    Kill: K ^DIC(4.2,"ATCP",$E(X,1,30),DA)
    Desc: This cross reference is used by XMRTCP to poll domains that have
           messages to be sent out. TaskMan does not run on the node that
           has the TCP/IP device sometimes.

(4.2,6.62) FTP                                              3;1

(4.2,6.7) FTP BLOB DIRECTORY                               FTP-DIR;1

(4.2,16) POLL LIST                                         4;0      (Multiple)

  (4.24,.01) POLL LIST                                     0;1
    Xref 1: 4.2^AB
      Set: S ^DIC(4.2,"AB",$E(X,1,30),DA(1),DA)=" "
      Kill: K ^DIC(4.2,"AB",$E(X,1,30),DA(1),DA)

(4.2,17) PHYSICAL LINK DEVICE                             0;17

(4.2,20) LEVEL 1 NAME                                     ;

(4.2,21) LEVEL 2 NAME                                     ;

(4.2,22) LEVEL 3 NAME                                     ;

(4.2,23) LEVEL 4 NAME                                     ;

(4.2,50) DIRECTORY REQUESTS FLAG                          50;1
  Xref 1: 4.2^AE
    Set: S ^DIC(4.2,"AE",$E(X,1,30),DA)=" "
    Kill: K ^DIC(4.2,"AE",$E(X,1,30),DA)

```

INTER-UCI TRANSFER - File: 4.281

```

(4.281,.01) FROM DOMAIN                                   0;1
  Xref 1: 4.281^B
    Set: S ^%ZISL(4.281,"B",$E(X,1,30),DA)=" "
    Kill: K ^%ZISL(4.281,"B",$E(X,1,30),DA)

```

Cross References

(4.281,1) TO DOMAIN 0;2
Xref 1: 4.281^C
Set: S ^%ZISL(4.281,"C",\$E(X,1,30),DA)=" "
Kill: K ^%ZISL(4.281,"C",\$E(X,1,30),DA)
Com: XXXX - Do not delete
Desc: This Cross-reference is used by the software to look-up to find entries that have been 'transmitted' when RECV^XMS3 is executed from a receiving domain.

(4.281,2) TEXT T;0 (Multiple)

(4.2812,.01) TEXT 0;1

MAILMAN OUTSTANDING FTP TRANSACTIONS - File: 4.2995

(4.2995,.01) NAME 0;1
Xref 1: 4.2995^B
Set: S ^XMBX(4.2995,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMBX(4.2995,"B",\$E(X,1,30),DA)

(4.2995,1) CREATION TIME 0;2

(4.2995,2) USER 0;3

(4.2995,3) IMAGE 0;4

(4.2995,4) GET/PUT A FILE 1;1

(4.2995,7) LOGON USERNAME 1;4

(4.2995,8) LOGON PASSWORD 1;5

(4.2995,9) IP ADDRESS 1;6

(4.2995,10) FILENAME AT LOCAL HOST 1;7

(4.2995,11) DIRECTORY AT LOCAL HOST 1;8

(4.2995,12) FILENAME AT REMOTE HOST 1;9

(4.2995,13) DIRECTORY AT REMOTE HOST 1;10

INTERNET SUFFIX - File: 4.2996

(4.2996,.01) NAME 0;1
Xref 1: 4.2996^B
Set: S ^DIC(4.2996,"B",\$E(X,1,30),DA)=" "
Kill: K ^DIC(4.2996,"B",\$E(X,1,30),DA)

(4.2996,1) SHORT DESCRIPTION 0;2

(4.2996,100) LONG DESCRIPTION 1;0 (Multiple)
 (4.29961,.01) LONG DESCRIPTION 0;1

REMOTE USER DIRECTORY - File: 4.2997

(4.2997,.01) LAST NAME 0;1
 Xref 1: 4.2997^B
 Set: S ^XMD(4.2997,"B",\$E(X,1,30),DA)=" "
 Kill: K ^XMD(4.2997,"B",\$E(X,1,30),DA)

(4.2997,1) FIRST NAME 0;2

(4.2997,2) REST OF NAME 0;3

(4.2997,3) MAIL CODE 0;4
 Xref 1: 4.2997^C
 Set: S ^XMD(4.2997,"C",\$E(X,1,30),DA)=" "
 Kill: K ^XMD(4.2997,"C",\$E(X,1,30),DA)

(4.2997,4) EXTENDED MAIL CODE 0;5

(4.2997,5) LOCATION 0;6
 Xref 1: 4.2997^D^KWIC

(4.2997,6) DATE LAST USED 0;9
 Xref 1: 4.2997^AC
 Set: S ^XMD(4.2997,"AC",\$E(X,1,30),DA)=" "
 Kill: K ^XMD(4.2997,"AC",\$E(X,1,30),DA)
 Desc: This cross reference is used by the XMDIR1 to automatically
 maintain out old entries that have not been used for at least 2
 years.

(4.2997,7) PHONE 1;1

(4.2997,8) PHONE EXTENSION 1;2

(4.2997,50) DATE ENTERED 0;8

(4.2997,98) AUTOMATICALLY ENTERED BY AUTO;1
 Xref 1: 4.2997^E
 Set: S ^XMD(4.2997,"E",\$E(X,1,30),DA)=" "
 Kill: K ^XMD(4.2997,"E",\$E(X,1,30),DA)
 Desc: This cross reference is used to maintain out old directory
 entries.

Cross References

(4.2997,99) NETWORK ADDRESS 0;7
Xref 1: 4.2997^F
Set: S ^XMD(4.2997,"F",X,DA)=" "
Kill: K ^XMD(4.2997,"F",X,DA)
Desc: This cross reference is used for look-up and also to determine if an entry already exists. Theory is that the old and new addresses can exist in the file and that is okay. The bad entry will be removed when the user notifies the support staff.

MESSAGE DELIVERY STATS - File: 4.2998

(4.2998,.01) DATE/TIME 0;1
Xref 1: 4.2998^B
Set: S ^XMBX(4.2998,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMBX(4.2998,"B",\$E(X,1,30),DA)

(4.2998,1) TOTAL QUEUE LENGTH 0;2

(4.2998,11) MESSAGES 0;3

(4.2998,12) RESPONSES 0;4

(4.2998,15) LINES OUTPUT 0;5

(4.2998,22) RESPONSE TIME - AVERAGE 0;8

(4.2998,38) ACTIVE USERS 0;21

(4.2998,39) ACTIVE ZSLOT USERS 0;22

(4.2998,40) ACTIVE NON-ZSLOT USERS 0;23

(4.2998,41) LOGINS - LAST 24 HOURS 0;10

(4.2998,42) LOGIN MINUTES - LAST 24 HOURS 0;9

(4.2998,43) MESSAGE NUMBER LAST ASSIGNED 0;11

(4.2998,44) MESSAGE DELIVERIES MADE 0;12

(4.2998,45) RESPONSE DELIVERIES MADE 0;13

(4.2998,46) MESSAGE DELIVERIES IN QUEUE 0;14

(4.2998,47) RESPONSE DELIVERIES IN QUEUE 0;15

(4.2998,101) AGE OF OLDEST MESSAGE 1;1

(4.2998,102) AGE OF OLDEST RESPONSE 1;2

(4.2998,103) RESPONSE ANALYSIS PARAMETERS 1;3

(4.2998,104) MESSAGE ANALYSIS PARAMETERS 1;4

(4.2998,201) RESPONSE AGE GROUP1 2;1

(4.2998,202) RESPONSE AGE GROUP2	2;2
(4.2998,203) RESPONSE AGE GROUP3	2;3
(4.2998,204) RESPONSE AGE GROUP4	2;4
(4.2998,205) RESPONSE AGE GROUP5	2;5
(4.2998,206) RESPONSE AGE GROUP6	2;6
(4.2998,207) RESPONSE AGE GROUP7	2;7
(4.2998,208) RESPONSE AGE GROUP8	2;8
(4.2998,209) RESPONSE AGE GROUP9	2;9
(4.2998,210) RESPONSE AGE GROUP 10	2;10
(4.2998,301) RESPONSE NUMBER GROUP1	3;1
(4.2998,302) RESPONSE NUMBER GROUP2	3;2
(4.2998,303) RESPONSE NUMBER GROUP3	3;3
(4.2998,304) RESPONSE NUMBER GROUP4	3;4
(4.2998,305) RESPONSE NUMBER GROUP5	3;5
(4.2998,306) RESPONSE NUMBER GROUP6	3;6
(4.2998,307) RESPONSE NUMBER GROUP7	3;7
(4.2998,308) RESPONSE NUMBER GROUP8	3;8
(4.2998,309) RESPONSE NUMBER GROUP9	3;9
(4.2998,310) RESPONSE NUMBER GROUP 10	3;10
(4.2998,401) MESSAGE AGE GROUP1	4;1
(4.2998,402) MESSAGE AGE GROUP2	4;2
(4.2998,403) MESSAGE AGE GROUP3	4;3
(4.2998,404) MESSAGE AGE GROUP4	4;4
(4.2998,405) MESSAGE AGE GROUP5	4;5
(4.2998,406) MESSAGE AGE GROUP6	4;6
(4.2998,407) MESSAGE AGE GROUP7	4;7
(4.2998,408) MESSAGE AGE GROUP8	4;8
(4.2998,409) MESSAGE AGE GROUP9	4;9
(4.2998,410) MESSAGE AGE GROUP 10	4;10

Cross References

(4.2998,501) MESSAGE NUMBER GROUP1	5:1
(4.2998,502) MESSAGE NUMBER GROUP2	5:2
(4.2998,503) MESSAGE NUMBER GROUP3	5:3
(4.2998,504) MESSAGE NUMBER GROUP4	5:4
(4.2998,505) MESSAGE NUMBER GROUP5	5:5
(4.2998,506) MESSAGE NUMBER GROUP6	5:6
(4.2998,507) MESSAGE NUMBER GROUP7	5:7
(4.2998,508) MESSAGE NUMBER GROUP8	5:8
(4.2998,509) MESSAGE NUMBER GROUP9	5:9
(4.2998,510) MESSAGE NUMBER GROUP 10	5:10
(4.2998,601) QUEUED DELIVERIES RESPONSE G1	6:1
(4.2998,602) QUEUED DELIVERIES RESPONSE G2	6:2
(4.2998,603) QUEUED DELIVERIES RESPONSE G3	6:3
(4.2998,604) QUEUED DELIVERIES RESPONSE G4	6:4
(4.2998,605) QUEUED DELIVERIES RESPONSE G5	6:5
(4.2998,606) QUEUED DELIVERIES RESPONSE G6	6:6
(4.2998,607) QUEUED DELIVERIES RESPONSE G7	6:7
(4.2998,608) QUEUED DELIVERIES RESPONSE G8	6:8
(4.2998,609) QUEUED DELIVERIES RESPONSE G9	6:9
(4.2998,610) QUEUED DELIVERIES RESP G 10	6:10
(4.2998,701) QUEUED DELIVERIES MESSAGE G1	7:1
(4.2998,702) QUEUED DELIVERIES MESSAGE G2	7:2
(4.2998,703) QUEUED DELIVERIES MESSAGE G3	7:3
(4.2998,704) QUEUED DELIVERIES MESSAGE G4	7:4
(4.2998,705) QUEUED DELIVERIES MESSAGE G5	7:5
(4.2998,706) QUEUED DELIVERIES MESSAGE G6	7:6
(4.2998,707) QUEUED DELIVERIES MESSAGE G7	7:7
(4.2998,708) QUEUED DELIVERIES MESSAGE G8	7:8
(4.2998,709) QUEUED DELIVERIES MESSAGE G9	7:9

(4.2998,710) QUEUED DELIVERIES MESSAGE G 10 7;10

MESSAGE STATISTICS - File: 4.2999

(4.2999,.01) NAME 0;1
 Xref 1: 4.2999^B
 Set: S ^XMBS(4.2999,"B",\$E(X,1,30),DA)=" "
 Kill: K ^XMBS(4.2999,"B",\$E(X,1,30),DA)

(4.2999,1) PROGRESS REPORT 3;1

(4.2999,2) MESSAGE IN TRANSIT 3;2

(4.2999,3) LINE LAST TRANSMITTED 3;3

(4.2999,4) ERRORS THIS TRANSMISSION 3;4

(4.2999,5) RATE OF TRANSMISSION 3;5

(4.2999,6) NETWORK DEVICE 3;6

(4.2999,7) OUTGOING MESSAGE COUNT 0;5

(4.2999,8) CHARACTERS REC'D 3;8

(4.2999,9) INCOMING MESSAGE COUNT 0;7

(4.2999,10) CHARACTERS SENT 3;9

(4.2999,17) TOTAL MESSAGES RECEIVED 0;7

(4.2999,25) TRANSMISSION TASK# 3;7

(4.2999,101) MESSAGE STATISTICS MONTH 100;0 (Multiple)

(4.29991,.01) MESSAGE STATISTICS MONTH 0;1
 Xref 1: 4.29991^B
 Set: S ^XMBS(4.2999,DA(1),100,"B",\$E(X,1,30),DA)=" "
 Kill: K ^XMBS(4.2999,DA(1),100,"B",\$E(X,1,30),DA)

(4.29991,102) MESSAGES SENT 0;2

(4.29991,103) MESSAGES RECEIVED 0;3

(4.29991,104) CHARACTERS SENT 0;4

(4.29991,105) CHARACTERS RECEIVED 0;5

(4.29991,106) LINES SENT 0;6

(4.29991,107) LINES RECEIVED 0;7

Cross References

KERNEL SITE PARAMETERS - File: 4.3

(4.3,.001) NUMBER

(4.3,.01) DOMAIN NAME 0;1
Xref 1: 4.3^B
Set: S ^XMB(1,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(1,"B",\$E(X,1,30),DA)

Xref 2: 4.3^AD^MUMPS
Set: S ^XMB("NUM")=X
Kill: K ^XMB("NUM")
Desc: This cross reference is used to record the pointer to the domain
that is the name of the local site.

Xref 3: 4.3^AF^MUMPS
Set: I \$D(^DIC(4.2,+X,0)) S (^XMB("NAME"),^XMB("NETNAME"))
=\$P(^DIC(4.2,+X,0),"^")
Kill: K ^XMB("NAME"),^XMB("NETNAME")
Desc: This cross reference is used to record the human readable name
of the local site's identity.

(4.3,1) TIME ZONE 0;2
Xref 1: 4.3^AC^MUMPS
Set: S ^XMB("TIMEZONE")=\$P(^XMB(4.4,X,0),U)
Kill: K ^XMB("TIMEZONE")
Desc: This cross reference is used to record the name of the timezone
that is the correct time zone for the local site.

(4.3,2) SUBORDINATE DOMAIN 1;0 (Multiple)

(4.31,.01) SUBORDINATE DOMAIN 0;1

(4.31,1) DATE CHRISTENED 0;2

(4.31,2) CHRISTENED BY 0;3

(4.3,3) PARENT 0;3
Xref 1: 4.3^AE^MUMPS
Set: S ^XMB("PARENT")=X
Kill: K ^XMB("PARENT")
Desc: This cross reference is used to record the name of the domain
that is the Parent of the local site.

(4.3,4) DATE CHRISTENED 0;4

(4.3,4.301) # MESSAGE NOT TO AUTOPURGE .14;1

(4.3,4.302) MAILMAN PURGE DATE(S) .1;0 (Multiple)

(4.302,.01) MAILMAN PURGE DATE 0;1
Xref 1: 4.302^B
Set: S ^XMB(1,DA(1),.1,"B",\$E(X,1,30),DA)=" "
Kill: K ^XMB(1,DA(1),.1,"B",\$E(X,1,30),DA)

(4.302,1) MESSAGES CHECKED	0;2
(4.302,2) PURGED MESSAGES	0;3
(4.302,3) FIRST MESSAGE TO PROCESS	0;4
(4.302,4) LAST MESSAGE TO PROCESS	0;5
(4.302,5) IS THIS A DATE PURGE	0;6
(4.302,6) PURGE MESSAGES OLDER THAN DATE	0;7
(4.302,7) LAST UPDATE	0;8
(4.302,8) LAST MESSAGE PROCESSED	0;9
(4.3,4.303) AUTOMATIC INTEGRITY CHECK	.12;1
(4.3,4.304) MESSAGES NOT TO PURGE WEEKDAYS	NOTOPURGE;1
(4.3,5) SHOW INSTITUTION IN MAILMAN?	0;5
(4.3,5.1) MESSAGE ACTION DEFAULT	0;15
(4.3,5.11) MESSAGE COPY LIMIT - RCPT	.11;1
(4.3,5.12) MESSAGE COPY LIMIT - RESPONSES	.11;2
(4.3,5.13) MESSAGE COPY LIMIT - LINES	.11;3
(4.3,6) POSTMASTER	2;0 (Multiple)
(4.32,.01) POSTMASTER	0;1
(4.3,7) REQUIRE INTRO'S IN MAILMAN?	0;6
(4.3,7.01) FWD TEST MESSAGE TO POSTMASTER	FORWARD;1
(4.3,7.5) CPU (UCI,VOL) FOR XMD TO RUN	0;12
(4.3,7.6) FTP ADDRESS FOR BLOB <GET>	FTP-GET;1
(4.3,7.7) FTP RECEIVE DIRECTORY	DISK/VOL;1
(4.3,7.71) FTP RECEIVE NETWORK LOCATION	FTPNETLOC;1
(4.3,7.711) FTP RECEIVE DISK	FTPRCVDISK;1
(4.3,7.72) FTP ADDRESS FOR BLOB RECEIVE	FTP-RCV;1
(4.3,7.73) FTP USERNAME	FTPUSER;1
(4.3,7.731) FTP PASSWORD	FTPPWD;1
(4.3,7.7999) FTP NOTES (Multiple)	FTP-NOTES;0
(4.37,.01) FTP NOTES	0;1

Cross References

(4.3,8) MCTS DEVICE	0;7
(4.3,8.1) NETWORK LOG DEVICE	0;10
(4.3,8.11) LPC CHECKSUM	LPC;E1,245
(4.3,8.12) TCP CHANNEL - MAXIMUM TO USE	0;17
(4.3,8.13) MM STAT NORMALIZATION	7;1
(4.3,8.14) MESSAGES LINES FOR XMUT2	XMUT2-LINES;1
(4.3,8.2) RECORD NETMAIL TRANSCRIPT?	0;14
(4.3,8.21) XMITS TILL ERROR MESSAGE	NETWORK;1
(4.3,8.3) NETWORK - MAX LINES @ SEND TO	NETWORK-LIMIT;1
(4.3,8.31) NETWORK - MAX LINES RECEIVED	NETWORK-LIMIT;2
(4.3,8.4) DIRECTORY REQUEST FLAG	8.4;1
(4.3,8.5) VADATS NAME	0;11
(4.3,9) AGENCY CODE	0;8
(4.3,10) MESSAGE RETENTION DAYS	0;9
(4.3,10.01) IN-BASKET-PURGE TYPE	.15;1
(4.3,10.1) BACKGROUND FILER HANG TIME	0;13
(4.3,10.2) BACKGROUND FILER RUN FLAG	0;16
(4.3,10.3) BACKGROUND FILER RUN PRIORITY	.13;1
(4.3,11) AUTO-GENERATE ACCESS CODES	3;1
(4.3,12) USER CHARACTERISTICS TEMPLATE	3;2
(4.3,13) *TASKMAN PRIORITY	3;3
Xref 1: 4.3^ATM13^MUMPS	
Set: Q	
Kill: Q	
Desc: This cross reference is obsolete, like the field it is for.	
 (4.3,14) *TASKMAN PARTITION SIZE	 3;4
Xref 1: 4.3^ATM14^MUMPS	
Set: Q	
Kill: Q	
Desc: This cross reference is obsolete like the field it is for.	

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(4.3,15) *TASKMAN RETENTION TIME                3;5
  Xref 1:  4.3^ATM15^MUMPS
  Set: Q
  Kill: Q
  Desc: This cross reference is obsolete like the field it is for.

(4.3,16) *TASKMAN HANG BETWEEN JOBS              3;6
  Xref 1:  4.3^ATM16^MUMPS
  Set: Q
  Kill: Q
  Desc: This cross reference is obsolete like the field it is for.

(4.3,19) OPTION AUDIT                            19;1

(4.3,19.1) OPTION TO AUDIT                       19.1;0      (Multiple)

  (4.36,.01) OPTION TO AUDIT                     0;1
    Xref 1:  4.36^B
    Set: S ^XMB(1,DA(1),19.1,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(1,DA(1),19.1,"B",$E(X,1,30),DA)

(4.3,19.2) NAMESPACE TO AUDIT                   19.2;0      (Multiple)

  (4.35,.01) NAMESPACE TO AUDIT                 0;1
    Xref 1:  4.35^B
    Set: S ^XMB(1,DA(1),19.2,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(1,DA(1),19.2,"B",$E(X,1,30),DA)

(4.3,19.3) USER TO AUDIT                        19.3;0      (Multiple)

  (4.34,.01) USER TO AUDIT                      0;1
    Xref 1:  4.34^B
    Set: S ^XMB(1,DA(1),19.3,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(1,DA(1),19.3,"B",$E(X,1,30),DA)

(4.3,19.4) INITIATE AUDIT                       19;2

(4.3,19.5) TERMINATE AUDIT                      19;3

(4.3,21) NEW PERSON IDENTIFIERS                 NPI;E1,245

(4.3,31.1) MAX SPOOL LINES PER USER             SPL;1

(4.3,31.2) MAX SPOOL DOCUMENTS PER USER         SPL;2

(4.3,31.3) MAX SPOOL DOCUMENT LIFE-SPAN         SPL;3

(4.3,32) ALPHA/BETA TEST PACKAGE                ABPKG;0      (Multiple)

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Cross References

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(4.332,.01) ALPHA/BETA TEST PACKAGE                                0;1
  Xref 1: 4.332^B
  Set: S ^XMB(1,DA(1),"ABPKG","B",$E(X,1,30),DA)=" "
  Kill: K ^XMB(1,DA(1),"ABPKG","B",$E(X,1,30),DA)

(4.332,.02) DATE LAST UPDATED                                      0;2

(4.332,.03) ADRESSEE FOR USAGE REPORTING                          0;3

(4.332,.04) VERSION NUMBER                                         0;4

(4.332,1) PACKAGE NAMESPACE OR PREFIX                             1;0      (Multiple)

  (4.3321,.01) PACKAGE NAMESPACE OR PREFIX                         0;1
    Xref 1: 4.3321^B
    Set: S ^XMB(1,DA(2),"ABPKG",DA(1),1,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(1,DA(2),"ABPKG",DA(1),1,"B",$E(X,1,30),DA)

  (4.3321,1) EXCLUDE NAMESPACE OR PREFIX                           1;0      (Multiple)

    (4.33211,.01) EXCLUDE NAMESPACE OR PREFIX                     0;1
      Xref 1: 4.33211^B
      Set: S ^XMB(1,DA(3),"ABPKG",DA(2),1,DA(1),1,"B",$E(X,1,30),
        DA)=" "
      Kill: K ^XMB(1,DA(3),"ABPKG",DA(2),1,DA(1),1,"B",$E(X,1,30),
        DA)

(4.3,33) ALPHA,BETA TEST OPTION                                    ABOPT;0      (Multiple)

  (4.333,.01) ALPHA,BETA TEST OPTION                               0;1

  (4.333,.02) ACCESSES SINCE LAST UPDATE                           0;2

(4.3,41) VOLUME SET                                                4;0      (Multiple)

  (4.304,.01) VOLUME SET                                           0;1
    Xref 1: 4.304^B
    Set: S ^XMB(1,DA(1),4,"B",$E(X,1,30),DA)=" "
    Kill: K ^XMB(1,DA(1),4,"B",$E(X,1,30),DA)

    Xref 2: 4.304^AC^MUMPS
    Set: Q
    Kill: Q
    Desc: This cross reference is obsolete like the field it is for.

    Xref 3: 4.3^ATM01^MUMPS
    Set: Q
    Kill: Q

  (4.304,1) *INHIBIT LOGON?                                        0;2
    Xref 1: 4.3^ATM1^MUMPS
    Set: Q
    Kill: Q

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(4.304,2) MAX SIGNON ALLOWED                                0;3
    Xref 1:  4.3^ATM2^MUMPS
    Set: Q
    Kill: Q

(4.304,3) *REQUIRED VOLUME SET                              0;4

(4.304,4) *MANAGER UCI                                      0;5

(4.304,5) *UCI                                              UCI;0      (Multiple)

    (4.3045,.01) *UCI                                        0;1
        Xref 1:  4.3045^B
        Set: S ^XMB(1,DA(2),4,DA(1),"UCI","B",$E(X,1,30),DA)=" "
        Kill: K ^XMB(1,DA(2),4,DA(1),"UCI","B",$E(X,1,30),DA)

        Xref 2:  4.3045^AC^MUMPS
        Set: Q
        Kill: Q

    (4.3045,1) *LINKED VOLUME SET                            VOL;0      (Multiple)

        (4.30451,.01) *LINKED VOLUME SET                    0;1
            Xref 1:  4.30451^B
            Set: S ^XMB(1,DA(3),4,DA(2),"UCI",DA(1),"VOL","B",
                $E(X,1,30),DA)=" "
            Kill: K ^XMB(1,DA(3),4,DA(2),"UCI",DA(1),"VOL","B",
                $E(X,1,30),DA)

            Xref 2:  4.30451^AC^MUMPS
            Set: Q
            Kill: Q

        (4.30451,1) *LINKED UCI                              0;2
            Xref 1:  4.3^AT^MUMPS
            Set: Q
            Kill: Q

(4.304,6) LOG SYSTEM RT?                                    0;6

(4.304,7) *TASKMAN JOB LIMIT                                0;7
    Xref 1:  4.3^ATM7^MUMPS
    Set: Q
    Kill: Q

(4.304,8) *OUT OF SERVICE?                                  0;8
    Xref 1:  4.3^ATM8^MUMPS
    Set: Q
    Kill: Q

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Cross References

(4.304,9) *REPLACEMENT VOLUME SET	0;9	
Xref 1: 4.3^ATM9^MUMPS		
Set: Q		
Kill: Q		
(4.3,51) VAX CLUSTER NODE (inactive)	5;0	(Multiple)
(4.351,.01) NODE NAME (inactive field)	0;1	
Xref 1: 4.351^B		
Set: S ^XMB(1,DA(1),5,"B",\$E(X,1,30),DA)=" "		
Kill: K ^XMB(1,DA(1),5,"B",\$E(X,1,30),DA)		
(4.351,1) TASKMAN JOB LIMIT (inactive)	0;2	
(4.3,202) DEFAULT # OF ATTEMPTS	XUS;2	
(4.3,203) DEFAULT LOCK-OUT TIME	XUS;3	
(4.3,204) DEFAULT MULTIPLE SIGN-ON	XUS;4	
(4.3,205) ASK DEVICE TYPE AT SIGN-ON	XUS;5	
(4.3,206) DEFAULT AUTO-MENU	XUS;6	
(4.3,209) DEFAULT TYPE-AHEAD	XUS;9	
(4.3,210) DEFAULT TIMED-READ (SECONDS)	XUS;10	
(4.3,211) BYPASS DEVICE LOCK-OUT	XUS;11	
(4.3,212) *BYPASS SIGN-ON LOG	XUS;12	
(4.3,212.1) DEVICE TO AUDIT	4.33;0	(Multiple)
(4.33,.01) DEVICE TO AUDIT	0;1	
Xref 1: 4.33^B		
Set: S ^XMB(1,DA(1),4.33,"B",\$E(X,1,30),DA)=" "		
Kill: K ^XMB(1,DA(1),4.33,"B",\$E(X,1,30),DA)		
(4.3,212.5) FAILED ACCESS ATTEMPT AUDIT	XUS;14	
(4.3,213) BRIEF SIGN-ON DISPLAY	XUS;13	
(4.3,214) LIFETIME OF VERIFY CODE (DAYS)	XUS;15	
(4.3,216) INTERACTIVE USER'S PRIORITY	XUS;16	
(4.3,217) DEFAULT INSTITUTION	XUS;17	
(4.3,240) INTRO TEXT	INTRO;0	(Multiple)
(4.324,.01) INTRO TEXT	0;1	
(4.3,241) BACKGROUND MESSAGE DELIVERERS	6;1	

(4.3,242) BACKGROUND RESPONSE DELIVERERS 6;2

(4.3,300) LOG RESOURCE USAGE? XUCP;1
 Xref 1: 4.3^ATM300^MUMPS
 Set: D SET^ZTMG43
 Kill: D KILL^ZTMG43
 Com: Needed to notify TaskMan when field changes.
 Desc: This cross-reference updates TaskMan whenever the field changes.
 The code that supports this cross-reference loops through the
 Volume Set file. For those with link access that are not out of
 service, it adjusts the LOGRSRC node to indicate whether or not
 to log resources, and kills the UPDATE node to tell TaskMan to
 see what has changed.

MAILMAN TIME ZONE - File: 4.4

(4.4,.01) CODE 0;1
 Xref 1: 4.4^B
 Set: S ^XMB(4.4,"B",\$E(X,1,30),DA)=" "
 Kill: K ^XMB(4.4,"B",\$E(X,1,30),DA)

(4.4,1) TIME ZONE NAME 0;2
 Xref 1: 4.4^C
 Set: S ^XMB(4.4,"C",\$E(X,1,30),DA)=" "
 Kill: K ^XMB(4.4,"C",\$E(X,1,30),DA)

(4.4,2) DIFFERENTIAL 0;3

NETWORK TRANSACTION - File: 4.5

(4.5,.01) NAME 0;1
 Xref 1: 4.5^B
 Set: S ^XMB(4.5,"B",\$E(X,1,30),DA)=" "
 Kill: K ^XMB(4.5,"B",\$E(X,1,30),DA)

(4.5,1) IDENTIFIER 0;2
 Xref 1: 4.5^C
 Set: S ^XMB(4.5,"C",\$E(X,1,30),DA)=" "
 Kill: K ^XMB(4.5,"C",\$E(X,1,30),DA)

(4.5,2) PREPROCESSING LOGIC 1;E1,200

(4.5,3) POSTPROCESSING LOGIC 2;E1,200

(4.5,4) RECIPIENT 3;0 (Multiple)
 (4.51,.01) RECIPIENT 0;1

(4.5,5) RECORD TYPE SELECTOR 4;E1,200

Cross References

(4.5,6) RECORD	5;0	(Multiple)
(4.52,.01) RECORD	0;1	
Xref 1: 4.52^B		
Set: S ^XMB(4.5,DA(1),5,"B",\$E(X,1,30),DA)=" "		
Kill: K ^XMB(4.5,DA(1),5,"B",\$E(X,1,30),DA)		
(4.52,1) FIELD	1;0	(Multiple)
(4.53,.01) FIELD NAME	0;1	
(4.53,1) EXTERNAL NAME	0;2	
(4.53,2) TYPE	0;3	
(4.53,3) LENGTH	0;4	
(4.53,4) DECIMAL PLACES	0;5	
(4.53,5) START POSITION	0;6	
Xref 1: ^^TRIGGER^4.53^9		
(4.53,6) TRIM	0;7	
Xref 1: ^^TRIGGER^4.53^9		
(4.53,7) IGNORE 0 AND NULL	0;8	
Xref 1: ^^TRIGGER^4.53^9		
(4.53,8) COBOL PICTURE	0;9	
Xref 1: ^^TRIGGER^4.53^9		
(4.53,9) EXTRACT CODE	1;E1,200	
(4.53,10) FILE	0;10	
Xref 1: 4.52^C		
Set: S ^XMB(4.5,DA(2),5,"C",\$E(X,1,30),DA(1),DA)=" "		
Kill: K ^XMB(4.5,DA(2),5,"C",\$E(X,1,30),DA(1),DA)		
Xref 2: ^^TRIGGER^4.53^11		
(4.53,11) FIELD	0;11	
(4.53,99) ALL HERE	;	

NETWORK SENDERS REJECTED - File: 4.501

```

(4.501,.01) NAME                                0;1
  Xref 1: 4.501^B
  Set: S ^XMBX(4.501,"B",$E(X,1,30),DA)=" "
  Kill: K ^XMBX(4.501,"B",$E(X,1,30),DA)

```

```

(4.501,1) USE FLAG                                0;2

```

TRANSMISSION SCRIPT - File: 4.6

```

(4.6,.01) NAME                                0;1
  Xref 1: 4.6^B
  Set: S ^XMB(4.6,"B",$E(X,1,30),DA)=" "
  Kill: K ^XMB(4.6,"B",$E(X,1,30),DA)

```

```

(4.6,1) TEXT                                    1;0      (Multiple)

```

```

  (4.61,.01) TEXT                                0;1

```

```

(4.6,2) DESCRIPTION                            2;0      (Multiple)

```

```

  (4.62,.01) DESCRIPTION                        0;1

```

Cross References

Archiving and Purging

Archiving

There are no MailMan specific archiving procedures or recommendations.

Purging

MailMan exports an entire submenu (called Disk Space Management) under the Manage MailMan menu to facilitate purging of MailMan files and the cleanup of MailMan produced globals. The Managing MailMan section of this document describes these options and provides a summary of system management, as well as giving recommendations for scheduling frequency of maintenance tasks. All of these options can be queued.

Callable Routines

Version 7.1 has several new entry points. Pre-existing entry points have been enhanced. You may find the utilities and the additional functionality useful.

New API Features

- **Message Query API** is a set of calls that will extract data of the sender, origination date, recipients, other message body parts, and subject.
- **API for Mail Groups** extrinsic functions allows a programmer to create mail groups, add members to an existing mail group and delete members from a mail group. It can be called so that it is completely silent or in an interactive mode.
- **API for Replying to Messages (Regular and Sender Only)** entry point is an interactive option for the process to send messages. It can be put onto many menus. It is the same as the MailMan Send a Message option. It requires an "Entry Action" and an "Exit Action".
- **API to Forward Messages for Immediate Delivery** is a newly created entry point that processes messages for immediate delivery. It performs while the user waits. It is not passed onto a background filer(s) as with most mail messages.
- **API to Display Number of New Messages** is an entry point that will return the number of new messages for a user.

Entry Points and Extrinsic Functions

All MailMan Application Programming (API) entry points and extrinsic functions are documented in detail in the MailMan V. 7.1 Programmer Reference Manual. Entry points are subject to change and are not supported. Use them at your own risk!

The following list is by routine name in order to provide easy look-up.

XM

\$\$NU^XM Returns the # of New messages

XMA03

\$\$REN^XMA03(DUZ,XMK) Renumber messages in mail Basket

XMA11

\$\$INFO^XMA11 Change message type to "Information Only"

XMA1B

KLQ^XMA1B Delete message from basket and place in Waste Basket

S2^XMA1B Save message into a basket

XMA1C

REMSBMSG^XMA1C Remove message from Postmaster server basket

SETSB^XMA1C Put message into Postmaster's server basket to protect it from automatic purge

XMA2

GET^XMA2 Create a message stub, failure erases halt

XMZ^XMA2 Create a Message stub, failure returns error if unsuccessful

XMA21

DEST^XMA21 Interactive recipient look-up

INST^XMA21 Non-interactive recipient look-up of remote address

WHO^XMA21 Non-interactive recipient look-up

XMA2R

\$\$SENT^XMA2R Add response to chain of responses

XMAD2

\$\$BSKT^XMAD2(X,Y) Returns internal basket number

XMADGO

ZTSK^XMADGO Create task to start background filer

XMAREAD

\$\$CHECK^XMAREAD(Y,Z) Validity check

\$\$READ^XMAREAD(A,B,C,D,E) Question and answer driver

XMB

D ^XMB Deliver a Bulletin in the background
EN^XMB Real-time delivery of a Bulletin
^XMB("NETNAME") Name of Local Domain

XMBGRP

\$\$DM^XMBGRP Delete a member from a Mail Group
\$\$MG^XMBGRP Create a new Mail Group or add a member

XMCTLK

GO^XMCTLK Use device, display entry and data

XMD

D ^XMD Entry point to send a message
ENL^XMD
ENT^XMD Interactive option to send a message
ENT1^XMD Forward messages
ENT2^XMD Allows additional recipients when forwarding a message

XMDF

\$\$ENT^XMDF Forward messages for immediate delivery

XMGAPI0

\$\$SUBCHK^XMGAPI0 Message subject check
\$\$SUBGET^XMGAPI0(X) Message subject by number

XMGAPI1

\$\$EN^XMGAPI1 Sets up standard MailMan variables
\$\$EN^XMGAPI1(A,.B) Initialize the MailMan environment
\$\$READ^XMGAPI1() Read message text

XMGAPI2

\$\$HDR^XMGAPI2 (A,.B,C) Retrieve header information
\$\$HDR^XMGAPI2 (123456,.VAR,0) Flag 0 - Local user message
\$\$HDR^XMGAPI2 (123457,.VAR,0) Flag 0 - Remote user message
\$\$HDR^XMGAPI2 (123458,.VAR,0) Flag 0 - Local user response
\$\$HDR^XMGAPI2 (123459,.VAR,0) Flag 0 - Remote user response
\$\$HDR^XMGAPI2 (123456,.VAR,1) Flag 1 - Local user message
\$\$HDR^XMGAPI2 (123456,.VAR,91) Flag 91 - Local user message
\$\$HDR^XMGAPI2 (123456,.VAR,92) Flag 92 - Local user message
\$\$HDR^XMGAPI2 (123456,.VAR,93) Flag 93 - Local user message

XMPG

ENT^XMPG Create and send PackMan message with Global data

XMRENT

\$\$NET^XMRENT Get message information

Callable Routines
Entry Points and Extrinsic Functions

XMS1

\$\$\$SRVTIME^XMS1 Set status of recipients of a message

\$\$\$STATUS^XMS1 Extract information from a message

XMUT7

D ^XMUT7 Send error message to Postmaster

Variable List

<u>Variable</u>	<u>Description</u>
XMAPHOST	Array of information that is used by the P-MESSAGE device to create a message. XMAPHOST("XMSUB") is the message subject and XMZPHOST("XMZ") is the message number.
XMB	The name of a bulletin (an entry in File #3.6).
XMCHAN	Silences all interactive feedback when set to "1". This is often used to temporarily override XMLOC.
XMDF	When this variable is set, any limitations to the operation that might restrict users are ignored. For instance, if the system limits the size of a message that can be sent to a remote recipient to 100 lines, the entry points DEST^XMA21 and EN^XMD will not allow remote addresses.
XMK	Basket Number
XMKM	Basket Number
XMDT	Date/Time set in FileMan format.
XMDUN	The human readable user name.
XMDUZ	The user's identity (which is a pointer to the New Person file) or a free text string. If it is a free text string and is input into a message or reply sending routine, all recipients will receive the message reply as "New". When XMDUZ exists, its value generally overrides the existing value of Kernel's DUZ.
XMLOC	When this variable is set to "1", MailMan assumes an interactive session.
XMLOCK	List of keys checked for certain MailMan delivery procedures.
XMMG	Human readable error message from many modules.
XMQF	Can be set when using XMD and XMB interfaces to force task creation for network mail delivery for remote recipients.
XMROU	An array of routines to be loaded into a message. Ex: XMROU("XMD")

<u>Variable</u>	<u>Description</u>
XMSER	Server name or internal number of server option when using XMAIC entry point.
XMSTRIP	A string of characters to be stripped from a message or response text.
XMSUB	The subject of the message (free text). This variable must be at least 3 but no more than 65 characters in length, and cannot be in the form 1"R"1.N. There is an entry point (\$\$SUBCHK^XMGAPI0), which you should use to validate this value.
XMTEXT	<p>Global or Local array name in the same format as used by %XY^%RCR, from which the text of the message will be extracted. The array can in any of the following forms.</p> <p>Example:</p> <pre>A(1)="Line1" or A(1,0)="Line 1" A(2)="Line2" or A(2,0)="Line 2" A(2,1)="Line3" or A(2.1,0)="Line 3"</pre> <p>or combined:</p> <pre>A(1)="Line1",A(2,0)="Line 2"</pre>
XMXX	Option name (a server address is "S."_OPTION_NAME).
XMY	<p>The XMY array can assume these formats:</p> <pre>XMY (number) = " "</pre> <p>where number is a pointer to any entry in the New Person file.</p> <pre>XMY (number , 0) = Basket</pre> <p>where number is a pointer to any entry in the New Person file, and basket is either a pointer to a mail basket or the name of the mail basket in a mail box. The XMY(number)=" entry must be defined.</p> <pre>XMY (name) = " "</pre> <p>where name is a string that will be re-evaluated further.</p> <p>This listing provides full descriptions, with examples of various formats the XMY array may be used: [Where domain_name is any valid domain in the Domain file (# 4.2).]</p>

Variable

Description

XMY ("SMITH,JOHN") = " "

Representative of a local user, whose name is SMITH,JOHN.

XMY ("JONES ,SAM@domain_name") = " "

Represents a user on the system, whose name is JONES,SAM in the New Person file, followed by the domain name of that site. If the local system domain name is DOMAIN_NAME.VA.GOV it will be a local recipient.

XMY ("G.MAIL_GROUP@domain_name") = " "

This format distinguishes a mail group on the system, whose name is in the Mail Group file is GROUP on the system, followed by the domain name of that same site.

XMY ("D.DEVICE@domain_name") = " "

Elements of this format represent a device on the system, whose name is DEVICE in the Device file, followed by the domain name of that system.

XMY ("S.OPTION@domain_name") = " "

Represents an option on the system, whose name in the Option file is OPTION, followed by the domain name of that system.

XMY ("INFO:MAIL_GROUP@domain_name") = " "

This format distinguishes a mail group on the system, whose name in the Mail Group file is GROUP, followed by the domain name of that site and in addition specifies that the message will be delivered "Information Only", meaning that recipients will not be able to reply to it.

XMZ

Internal Message number.

CAUTION!

The variable DIFROM should not be defined except by ^DIFROM, under any circumstances ^DIFROM sets DIFROM when storing data directly into a mail message, e.g., to document its own running, and special actions are taken. Make sure that this variable is undefined under all other circumstances. Even during a pre or post init the variable DIFROM should be undefined if a MailMan entry point is called.

Callable Routines
Variable List

External Relations

Only users of MailMan with TCP/IP, and MultiMedia MailMan need mandatory resources available in order for these features to be properly implemented, used, and maintained. Check the appropriate appendixes in this manual for prerequisites.

In order for MultiMedia MailMan to work properly, sites must also have access to the Image file (#2005), the Network Location file (#2005.2), and the Radiology package.

DBI Agreements Requested by MailMan

MailMan has been granted the following DBI Agreements by the VA database Administrator to make calls to other DHCP software packages. These agreements are published nationally on the FORUM system.

SUBSCRIBING PACKAGE: MAILMAN

CUSTODIAL PACKAGE: KERNEL

#230 DBIA230 MAY 18,1993 STATUS: Active TYPE: Other

DESCRIPTION:

MailMan V. 7 has permission to make the following calls to Kernel:

1. The modules affected by this agreement are in the namespace:
 - Device Handler (ZIS* & %ZIS*, not ZISL* & %ZISL*)
2. REQ^%ZTLOAD is called in the following manner to ensure a back-up task exists if this one should fail:

I \$L(ION) S ZTIO(1)="D",ZTIO=ION D REQ^%ZTLOAD

The result of this call leaves the task in the IO queue for the device it is running on (and no other, even if the device is a member of a hunt group).

3. The Kernel Site Parameters file contains fields that are used by modules in Kernel other than MailMan. The MailMan development team will maintain the file and will reserve fields and field numbers in the range of 3000 to 3999 for the use of this module. No alpha subscripts will be used by non-MailMan kernel packages without agreement from the MailMan development team except for those already in use and noted below. The exception to the above are nodes beginning with the Kernel namespace (ZI) which is reserved for this kernel packages and cross references beginning with any letter, but having the above namespace immediately follow that letter (EG. AZI5).

Any changes to this file require the notification of the MailMan development team. A method for ensuring that the distribution of the file by MailMan will then be negotiated.

The fields that are currently in use and are not *ed for removal within 18 months are: (#=multiple)

Field Number # Description node;piece

31.1	Max spool lines	SPL;1	31.2
	Max spool documents	SPL;2	31.3
	Max spool doc life	SPL;3	

- By agreement files 3.51, Spool Document [in ^XMB(3.51,)] and file 3.519, Spool Data [in ^XMBS(3.519,)] can continue to exist in the MailMan namespaced globals.

FILE: ROOT:
ROUTINE:

CUSTODIAL PACKAGE: KERNEL

#231 DBIA231 MAY 18,1993 STATUS: Active TYPE: Other

DESCRIPTION:

MailMan V. 7 has permission to make the following calls from Kernel Task Manager V. 7:

- The Kernel modules that this document refers to are:

- Task Management (ZTM* and %ZTM*)

- REQ^%ZTLOAD is called in the following manner to ensure a back-up task exists if this one should fail:

I \$L(ION) S ZTIO(1)="D",ZTIO=ION D REQ^%ZTLOAD

The result of this call leaves the task in the IO queue for the device it is running on (and no other, even if the device is a member of a hunt group).

- The routine XMS5 tries to confirm that tasks exist by looking at:

\$D(^%ZTSK(task,0)) ==> if the node exists the task exists
\$D(^%ZTSCH("TASK",task)) ==> If the node exists, the task is running
"12345AG"[%ZTSCH("TASK",.1) \$D(^%ZTSCH("IO",device,\$h,task)) ==>
The task is scheduled

4. MailMan 7 looks at ^%ZTSK(task,"C",0) for a count of the times the task has run. The next version will not use this any more.

FILE: ROOT:
ROUTINE:

CUSTODIAL PACKAGE: KERNEL

#234 DBIA234 MAY 18,1993 STATUS: Active TYPE: Other

DESCRIPTION:

MailMan is given permission to make the following calls to Kernel:

1. CHK^XM is an entry point set aside only for calls external from MailMan. It is used by KERNEL routines to notify users of new messages for a user during logon or as invoked from MenuMan. XMDUZ is used if supplied, otherwise DUZ is a pointer to the user's Mailbox. The symbol table of the caller is changed as the code currently stands. Y is output as a count of new messages. % and D are also used and not killed by MailMan. The Kernel security routine will continue to use this entry point, which also is necessary to make sure that ^TMP("XMY",\$J) is cleaned out on login and ensures that when job numbers are reused after reboot, there is not data in ^TMP("XMY",\$J) to include recipients from old mail sessions in currently generated bulletins that come from outside of MailMan. An example is the "Dropping into Programmer Mode bulletin".
2. ^XM may be called in order to offer MailMan as a service directly to users on logon.
3. The XMUSER and XMMGR menus may be used in high level menu structures.
4. Kernel modules to which this document refers are (even if they are at some point separated from the Kernel and become independent modules of their own) are System security (XU* and XT*).
5. Kernel security and user related modules currently can call NEW^XM to set up an new user's or reactivated user's mail box. The entry point uses the variables I, Y, and K destructively. If it is called for a user who is being reactivated, that user will not receive responses to messages he is a recipient of and were created before his reinstatement, unless he is explicitly forwarded them, or he "owns" the original message in one of his mail boxes.
6. XMPC is called by the Kernel routine comparer. All the proper set-up has been done and MailMan will coordinate any changes in this area with the programmer responsible for Kernel Utilities.

7. Kernel directly references the 5th piece of the Mail Basket multiple of the Mail Box file (#3.7) to get the number of messages in a mail basket.
8. Kernel directly references the 6th piece of the zero node of the Mail Box file (#3.7) to get the number of new messages in a mail box
9. There are some data fields in the Mail Box file (#3.7) that are not used in MailMan. They are used by sign-on security and should be maintained by sign-on security routines also.

field #	Description	node;piece
20	Last Sign-on Date/Time	1;1
21	Last Terminal Type Used	.2;1
22	Already Signed On To Devices	100 (multiple)

10. The Kernel Site Parameters file contains fields that are used by modules in Kernel other than MailMan. The MailMan development team will maintain the file and will reserve fields and field numbers in the range of 1000 to 1999 for the use of this kernel module. No alpha subscripts will be used by non-MailMan kernel packages without agreement from the MailMan development team except for those already in use and noted below. The exception to the above are nodes beginning with the namespaces (XU and XT) which are reserved for non-MailMan Kernel packages and cross references beginning with any letter, but having the above namespaces immediately follow that letter (EG. AXT5).

Any changes to this file require the notification of the MailMan development team. A method for ensuring that the distribution of the file by MailMan will then be negotiated.

Field Number	#	Description	node;piece
11		Auto-generate access codes	3;1
12		User char Template	3;2
202		Default number of attempts	XUS;2
203		Default lock-out time	XUS;3
204		Default Multiple sign-ons	XUS;4
205		Ask device at sign-on	XUS;5
209		Default type-ahead	XUS;9
211		Bypass Device lock-out	XUS;10
212.1		Device to audit	4.33 (subfile)
240		INTRO text	INTRO

FILE: ROOT:
ROUTINE:

CUSTODIAL PACKAGE: KERNEL

#305 DBIA305 OCT 27,1993 STATUS: Active TYPE: File

DESCRIPTION:

MailMan should be allowed the use of the %ZISL file as follows:

MailMan uses the 4.281 file whose global root is ^%ZISL(4.281, to facilitate InterUCI transfers. This file is part of the MailMan file set. MailMan may distribute and use this file.

**FILE: 4.281 ROOT: %ZISL(4.281,
ROUTINE:**

CUSTODIAL PACKAGE: KERNEL

#343 DBIA343 JAN 25,1994 STATUS: Active TYPE: Routine

DESCRIPTION:

It is agreed that MailMan can call XQSRV for servers.

MailMan sends XQSRV: XMZ, XMXX, XMFROM, XMCHAN, XMSEN, XMREC, & XMB("TYPE").

**FILE: ROOT:
ROUTINE: XQSRV**

XQSRV

XMZ	Input
XMXX	Input
XMFROM	Input
XMCHAN	Input
MXEN	Input
XMREC	Input
XMB("TYPE'	Input

CUSTODIAL PACKAGE: VA FILEMAN

#229 DBIA229-A MAY 18,1993 STATUS: Active TYPE: Routine

DESCRIPTION:

MailMan V. 7 has permission to make the following calls to FileMan:

- 1. MailMan has a special way of calling the FileMan editor. It calls EN^DIWE and supplies DWPK, DWLW, DIA, DIC and DIA("P"). The way that MailMan calls DIWE allows a slightly different set of functionalities. The transfer command is defaulted to use the 3.9 (Message) file if no file is specified. DWPK forces automatic wrapping of text at DWLW number of characters. Because of this the variable DC must have the appropriate value and MailMan kills it to may sure it is undefined. DWLW and DWPK**

have recently been released along with EN^DIWE as a callable entry point, but the use of DIC and DIA together still provide to MailMan special functionality in the FileMan line editor, namely the ability to transfer lines of text in from other messages that the user is the sender or a recipient of.

```
FILE:      ROOT:
ROUTINE: DIWE
          EN
          DWPK      Input
          DWLW      Input
          DIA      Input
          DIC      Input
          DIA('P') Input
```

CUSTODIAL PACKAGE: VA FILEMAN

#233 DBIA233 MAY 18,1993 STATUS: Active TYPE: Other

DESCRIPTION:

MAILMAN has permission to make the following calls to VA FileMan:

- 1. FileMan has a special way of using the XMD interface and it also has special calls into the XMP series of routines so that it can load INITs directly into a message during a DIFROM. As such the variable DIFROM effects that way some of these routines work so that the DIFROM procedure can use them to enter data and routines reiteratively into messages.**
 - In the routine XMD, if \$D(DIFROM) security keys are not ignored.**
 - In the routine XMD, if \$D(DIFROM) will cause a call to XMD at either tag EN1 or tag EN2 to quit after text is added to a message, but before the message is delivered.**
 - In the routine XMD, if \$D(DIFROM) before delivery, security will be added automatically by a call to XMASEC.**
 - In the routine XMASEC, if \$D(DIFROM) security is forced onto the message.**
 - In the routine XMP, if \$D(DIFROM) the string " (DIFROM)" is added to the 1st line of the PackMan message to show how it was created.**
 - In the routine XMPH a special prompt is provided where DIFROM loading into a message causes special help for the programmer.**
- 2. Kernel modules to which this document refers are (even if they are at some point separated from the Kernel and become independent modules of their own): FileMan (DI*)**

FILE: ROOT:
ROUTINE:

CUSTODIAL PACKAGE: VA FILEMAN

#706 DBIA229-B MAY 18,1993 STATUS: Active TYPE: Other

DESCRIPTION:

MailMan V. 7 has permission to make the following calls to FileMan:

- 2. MailMan has always used its text field such that non-integer nodes are not a problem to it. This is explicitly done for network mail headers, which are not expected to be in any way handled by FileMan. In this case the lines .001 through .999 are reserved for recording information passed by the network on message deliveries.**
- 3. While editing the Message file users have a capability to "transfer text" from other text processing fields. Currently they can reference the text fields of other messages that they either sent or are a recipient of and the responses to these messages. Other prospective files from which textual information may be extracted via this method include the Help Frame file. Security is kept for the privacy of each user by using the screen on the file during the look-up when transferring text from the Message file.**

FILE: ROOT:
ROUTINE:

PENDING INTEGRATION REFERENCES

#458 DBIA458 APR 25,1994 STATUS: Pending TYPE: Routine

**CUSTODIAL: IMAGING
SUBSCRIBER: MAILMAN 7.1**

**Washington
Washington**

DESCRIPTION:

MailMan V. 7.1 is permitted to the make calls to MAGAPI routine in the Imaging package:

USAGE: Private FILE: ROOT:

**ROUTINE: MAGAPI
COMPONENT: MAGFILE
VARIABLES: MAGXX Input**

MAGXX is a pointer to the Image file.
MAGFILE Output
MAGFILE is an array containing data about the image passed
to the MAGFILE routine.
This entry point is used to get data about an image attached to a mail
message.

#459 DBIA459 APR 25,1994 STATUS: Pending TYPE: File

CUSTODIAL: IMAGING Washington
SUBSCRIBER: MAILMAN 7.1 Washington
DESCRIPTION:

This agreement describes data that MailMan can access from the Imaging
package.

USAGE: Private FILE: 2005 ROOT: MAG(2005,
^MAG(2005,0)

MailMan \$ORDERS from here to test to see if there are images in the
system and if there are none, assumes that imaging is not installed.

^MAG(2005,entry,0)

.01	Image Name	0;1	Both Read/Write
2	DISK & VOL,MAGNETIC	0;3	Both Read/Write
1	FILEREF	0;2	Both Read/Write
3	OBJECT TYPE	0;6	Both Read/Write
14	COLLECTION DATE	0;9	Both Read/Write

2.1	DISK & VOLUME. - ABS	0;4	Both Read/Write
-----	----------------------	-----	-----------------

2.2	DISK & VOL.: WORM	0;5	Both Read/Write
-----	-------------------	-----	-----------------

ROUTINE:
COMPONENT:

#460 DBIA460 APR 25,1994 STATUS: Pending TYPE: File

CUSTODIAL: IMAGING Washington
SUBSCRIBER: MAILMAN 7.1 Washington
DESCRIPTION:

MailMan has permission to access file 2005.2 so that it can find where images
are and record their position appropriately.

USAGE: Private FILE: 2005.2 ROOT: MAG(2005.2,
 ^MAG(2005.2,entry,0)
 .01 NAME 0;1 Both Read/Write

1 PHYSICAL REFERENCE 0;2 Both Read/Write
 This file (NETWORK LOCATION) is used to store information about where
 an image may be found.

ROUTINE:
COMPONENT:

#461 DBIA461 APR 25,1994 STATUS: Pending TYPE: File

CUSTODIAL: IMAGING Washington
SUBSCRIBER: MAILMAN 7.1 Washington
DESCRIPTION:

Before an image can be displayed, the type of file it is stored in must be known.

USAGE: Private FILE: 2005.02 ROOT: MAG(2005.02,
 ^MAG(2005.02,entry,0)
 .01 OBJECT TYPE 0;1 Both Read/Write
 The object type tells the software which software to use to display it.

ROUTINE:
COMPONENT:

#462 DBIA462 MAY 3,1994 STATUS: Pending TYPE: Routine

CUSTODIAL: IMAGING Washington
SUBSCRIBER: MAILMAN Washington
DESCRIPTION:

MailMan has permission to call MAGAPI for 3 purposes.

USAGE: Private FILE: ROOT:

ROUTINE: MAGAPI
COMPONENT: SELIM
VARIABLES: Parameter1 Input
 Pointer to the Image file

y Output
 The pointer to the image chosen and its name (same as DIC output).

SELIM^MAGAPI(x) allows MailMan to select an image from the Image file to attach to a message.

ERASE

VARIABLES: Parameter1 Input
 Parameter1 is a pointer to the Image file.

ERASE^MAGAPI(x) allows MailMan to erase an image from the screen.

EXPORT(X,Y,Z)

VARIABLES: Parameter1 Input
 When this entry point is called Imaging will copy an image into the export directory.

x Input
 Pointer to the Image file.

X Input
 Directory to move an image into.

Y Input
 Pointer to the Image file.

Z Input
 Wait flag if set to other than zero.

Images must be in a special directory so that they can be transmitted across the network. This entry point creates a copy of the Image file in that directory.

\$SEXPORT(X,Y,Z)

VARIABLES:

#463 DBIA463 MAY 3,1994 STATUS: Pending TYPE: Routine

CUSTODIAL: IMAGING
SUBSCRIBER: MAILMAN

Washington
Washington

DESCRIPTION:

MailMan has permission to call MAGBAPI so that images that are imported can be moved into a permanent storage location.

USAGE: Private FILE: ROOT:

ROUTINE: MAGBAPI
COMPONENT: \$\$IMPORT(X)
VARIABLES: X Input

Y Pointer to the Image file.
Output
Returned because call is in the form of an extrinsic function.
Causes image file to be moved to a permanent location from the
import directory.

Custodial DBI Agreements

The following MailMan Custodial DBI Agreements have been granted by the VA Database Administrator for DHCP packages to make calls to MailMan. The agreements are published nationally on the FORUM system.

SUBSCRIBER: AUTOMATED MED INFO EXCHANGE Albany
#239 DBIA239-A JUN 15,1993 STATUS: Active TYPE: File
DESCRIPTION:

FILE: 4.3 ROOT: XMB(1,
REFERENCE: XMB(1,D0,0)
.01 DOMAIN NAME 0;1 Read Only
ROUTINE:

SUBSCRIBER: AUTOMATED MED INFO EXCHANGE Albany
#709 DBIA239-B JUN 15,1993 STATUS: Active TYPE: Routine
DESCRIPTION:

FILE: ROOT:
ROUTINE: XMA21
DES
XMMG Input

SUBSCRIBER: QUALITY ASSURANCE Chicago
#286 DBIA286 OCT 5,1993 STATUS: Active TYPE: File
DESCRIPTION:

MailMan V. 7.1 will invoke a QA conversion in MailMan's post init. It will manipulate the fields as follows:

DBIA for MailMan with the QUALITY ASSURANCE SITE PARAMETERS file (#740).

This DBIA is for the purpose of a post-init conversion of two free-text pointers to the DOMAIN file (#4.2).

Read/write access to the following fields:

740,740.02 EWS DOMAIN (0;3)
740,740.04 NQADB DOMAIN (0;5)

FILE: 4.2 ROOT: DIC(4.2,
ROUTINE:

SUBSCRIBER: REMOTE ORDER/ENTRY SYSTEM

#247 DBIA247 DEC 1991 STATUS: Active TYPE: File

DESCRIPTION:

References to the MESSAGE File (3.9)

^XMB(3.9,i,0) Field .01 Subject

^XMB(3.9,i,2,j,0) Field 3 Text

FILE: 3.9 ROOT: XMB(3.9,

ROUTINE:

SUBSCRIBER: SOFTWARE INSTALLATION REPORT

Albany

#49 DBIA49 AUG 7,1990 STATUS: Active TYPE: File

DESCRIPTION:

References and extracts data from ^XMB global. \$O's thru the Postmaster's basket, ^XMB(3.7,.5.2."B" ,to get IFN for SIR.FORUM.VA.GOV basket, then \$O's thru messages in the basket & extracts data into a FM file.

DURATION: Till next version of Fileman (V. 18) when filegram and mail server functionality is available.

FILE: 3.7 ROOT: XMB(3.7,

REFERENCE: XMB(3.7,.5,2,'B

ROUTINE:

SACC Exemptions

- 1 **STANDARD SECTION: 6D FM compatibility**
DATE GRANTED:
The global XMB("NOP", is exempted from VA FileMan compatibility. It is a temporary list of messages which should not be purged.
- 2 **STANDARD SECTION: 6D FM compatibility**
DATE GRANTED:
The global XMB("POST", is exempted from VA FileMan compatibility. It is a temporary list of messages to be posted by MailMan's background filer. This is exemption is for version 7 or earlier of MailMan.
- 3 **STANDARD SECTION: 4B Package-wide variables**
DATE GRANTED: FEB 9,1989
XMDUN, XMDUNO, XMDUZ, and XMPRIV are package-wide variables for use in MailMan.
- 4 **STANDARD SECTION: 2D2 * & # READs**
DATE GRANTED: MAR 26,1990
The following MailMan routines may use * or # reads, XMC1, XMCTLK, XLM, XML1CRC, XML4CRC*.
- 5 **STANDARD SECTION: 6D FM compatibility**
DATE GRANTED: AUG 10,1989
The XMB("PURGE" global is exempt from VA FileMan compatibility.
- 6 **STANDARD SECTION: 2A OPEN, CLOSE device**
DATE GRANTED: OCT 25,1990
MailMan is exempted from using the device handler to open and close synchronous communications channels to support electronic communications until such time that the VA device handler provides the needed functionality.

Also involved are scripts distributed in the domain file or the transmission script file. This exemption allows MailMan to set the appropriate IO* variables as needed.
- 7 **STANDARD SECTION: 6D FM compatibility**
DATE GRANTED: FEB 3,1993
The global ^XMBPOST is exempted from VA FileMan compatibility in version 7.1 of MailMan and later. This global will be used to store information concerning mail messages to be posted by MailMan's background filer. It will also temporarily store statistical data concerning mail messages.

Note: Approval to store statistical data in the ^XMBPOST global is only granted on a temporary basis. Once Kernel releases the ^XTMP global the MailMan developers are required to move statistical data from ^XMBPOST to ^XTMP.

Note: The exemption to store data in a non-VA FileMan global applies only to the data specified in the original request. Any changes in future versions of the MailMan package that change the type of data or increase the nodes/pieces of data to be stored in the ^XMBPOST global will require a new request for exemption.

8 STANDARD SECTION: 2A B,J,V,Z,\$V,\$Z
DATE GRANTED: DEC 14,1989
MailMan, by virtue of being defined as part of Kernel, may use Non-Standard \$Z functions and Non_standard \$Z special variables.

Internal Relations

Pointer Relationships

Files included

3.4 COMMUNICATIONS PROTOCOL
3.6 BULLETIN
3.7 MAIL BOX
3.73 MESSAGES TO BE NEW AT A LATER DATE
3.8 MAIL GROUP
3.816 DISTRIBUTION LIST
3.9 MESSAGE
4.2 DOMAIN
4.281 INTER-UCI TRANSFER
4.2995 MAILMAN OUTSTANDING FTP TRANSACTIONS
4.2996 INTERNET SUFFIX
4.2997 REMOTE USER DIRECTORY
4.2998 MESSAGE DELIVERY STATS
4.2999 MESSAGE STATISTICS
4.3 KERNEL SITE PARAMETERS
4.4 MAILMAN TIME ZONE
4.5 NETWORK TRANSACTION
4.6 TRANSMISSION SCRIPT
9.2 HELP FRAME

File/Package: MAILMAN 7.1

Date: FEB 22,1994

FILE (#) POINTER FIELD	POINTER TYPE	(#) FILE POINTER FIELD	FILE POINTED TO
L=Laygo *=Truncated	S=File not in set m=Multiple	N=Normal Ref. v=Variable Pointer	C=Xref.

OPTION (#19) SERVER BULLETIN (N S L)->		3.6 BULLETIN m MAIL G:MAIL G*	-> MAIL GROUP

		3.7 MAIL BOX NAME LAST MAILMAN A* MESSAGE BEING * MESSAGE BEING * TERMINAL TYPE * BASK:MESS:MESS* m SURROG:SURROG*	-> NEW PERSON -> NEW PERSON -> MESSAGE -> MESSAGE -> TERMINAL TYPE -> MESSAGE -> NEW PERSON

		3.73 MESSAGES T* USER MESSAGE	-> NEW PERSON -> MESSAGE

BULLETIN (#3.62) MAIL GROUP (N L)-> MAIL GROUP (#3.811) MEMBER GR:MEMBER GROU* (N C)-> DUPLICATE RESOLUTION (#15.1) DUPLICATE MANAGER MAIL* (N S)->		3.8 MAIL GROUP ORGANIZER COORDINATOR	 -> NEW PERSON -> NEW PERSON

Internal Relations

Pointer Relationships

VERIFIED DUPLICATE MAI* (N S)->	m AUTHOR:AUTHOR*	-> NEW PERSON
MERGE MAIL GROUP (N S)->	m MEM:MEMBER	-> NEW PERSON
OPTION (#19)		
SERVER MAIL GROUP (N S L)->	m MEMBER:MEMBER*	-> MAIL GROUP
ADT PARAMETER (#43)		
DEATH GROUP (N S)->	m DISTRI:DISTRI*	-> DISTRIBUTION LI*
NEW PATIENT GROUP (N S)->		
NAME CHANGE GROUP (N S)->		
SSN CHANGE GROUP (N S)->		
UNVERIFIED ADMIT GROUP (N S)->		
INCONSISTENCY EDIT GRO* (N S)->		
NON-VETERAN ADMIT GROUP (N S)->		
OVERDUE ABSENCES GROUP (N S)->		
PATIENT DELETED GROUP (N S)->		
SENSITIVE REC ACCESSED* (N S)->		
SENSITIVITY REMOVED GR* (N S)->		
UB82 CANCELLATION MAIL* (N S)->		
UB82 DISAPPROVED MAILG* (N S)->		
RECORD TRACKING APPL (#195.1)		
MISSING RECORD MAIL GR* (N S)->		
PRC IFCAP MESSAGE RO (#423.5)		
MAILGROUP (N S)->		
<hr/>		
MAIL GROUP (#3.813)		
DISTRIBUTION LIST (N C L)->	3.816 DISTRIBUT* m DOMAIN:DOMAIN	-> DOMAIN
<hr/>		
(#1.12)		
MESSAGE (N S)->	3.9 MESSAGE	
MAIL BOX (#3.7)		
MESSAGE BEING EDITED . (N C L)->	ORIGINAL MESSA*	-> MESSAGE
MESSAGE BEING RESPONDE* (N L)->	m RESPON:RESPON*	-> MESSAGE
BASKET:MESSAGE (N C)->	RECIPI:LAST R*	-> MESSAGE
MESSAGES TO BE NEW A (#3.73)		
MESSAGE (N)->	RECIPIENT:PATH	-> DOMAIN
MESSAGE (#3.9)		
ORIGINAL MESSAGE (N)->	m OBJECT:OBJECT*	-> IMAGE
RESPONSE (N)->		
RECIPIENT:LAST RESPON* (N)->		
PTF (#45.04)		
CENSUS YEAR:MESSAGE .. (N S)->		
PTF RELEASE (#45.831)		
PTF RECORD:MESSAGE ... (N S)->		
PTF TRANSACTION REQU (#45.87)		
MAIL MSG # (N S)->		
ORDER (#100)		
FLAG MESSAGE (N S)->		
INVOICE TRACKING (#421.5)		
MESSAGE NUMBER (N S)->		
<hr/>		
DISTRIBUTION LIST (#3.8161)		
DOMAIN (N C)->	4.2 DOMAIN	
MESSAGE (#3.91)		
RECIPIENT:PATH (N)->	RELAY DOMAIN	-> DOMAIN
INSTITUTION (#4)		
DOMAIN (N S)->		
DOMAIN (#4.2)		
RELAY DOMAIN (N L)->		
MESSAGE STATISTICS (#4.2999)		

Internal Relations Pointer Relationships

```

NAME ..... (N C )->
KERNEL SITE PARAMETE (#4.3)
DOMAIN NAME ..... (N C )->
PARENT ..... (N C )->
SUBORDINATE DOMAIN ... (N )->
TRANSMISSION ROUTERS (#407.71)
MAIL ROUT:DOMAIN MAIL* (N S )->
GENERIC CODE SHEET B (#2101.12)
RECEIVING:DOMAIN MAIL* (N S )->
SERVER (#12000001)
DOMAIN ..... (N S )->

```

```

4.2995 MAILMAN *
USER      -> NEW PERSON
IMAGE     -> IMAGE

```

```

4.2999 MESSAGE *
NAME      -> DOMAIN

```

```

4.3 KERNEL SITE*
DOMAIN NAME      -> DOMAIN
TIME ZONE        -> MAILMAN TIME ZO*
PARENT           -> DOMAIN
MCTS DEVICE      -> DEVICE
NETWORK LOG DE*  -> DEVICE
DEFAULT INSTIT*  -> INSTITUTION
m SUBORD:SUBORD* -> DOMAIN
SUBORD:CHRIST*   -> NEW PERSON
m POSTMA:POSTMA* -> NEW PERSON
m DEVICE:DEVICE* -> DEVICE
m ALPHA/:ALPHA/* -> PACKAGE
m ALPHA,:ALPHA,* -> OPTION
m USER T:USER T* -> NEW PERSON
m OPTION:OPTION* -> OPTION

```

```

KERNEL SITE PARAMETE (#4.3)
TIME ZONE ..... (N C )->

```

```

4.4 MAILMAN TIM*

```

Templates

Sort Templates

XMMGR-BKFILER-DAY@23:30

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template is used to produce a report that lists the number of messages that were created in a month, a day at a time.

SORT BY: DATE/TIME// (User is asked range)
WITHIN DATE/TIME, SORT BY:
'\$E(\$P(INTERNAL(DATE/TIME),".",2),1,3)=233;L1// From '0' To
'1'

XMMGR-BKFILER-TIME_PER_DATE

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template allows information in a time oriented file to generate output from a beginning time to and ending time.

SORT BY: @DATE/TIME// (User is asked range)
WITHIN DATE/TIME, SORT BY:
@\$E(\$P(INTERNAL(DATE/TIME),".",2),1,3)// (User is asked range)

Print Templates

XMHOSTLIST

FILE NAME: DOMAIN
FILE NUMBER: 4.2
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template may be used to produce a list of domains with pertinent network routing information.

FIRST PRINT FIELD: NAME;L10//
THEN PRINT FIELD: STATION;"STATION";R5//
THEN PRINT FIELD: DHCP ROUTING INDICATOR;"DHCP";L6//
THEN PRINT FIELD: MAILMAN HOST;"HOST";R8//
THEN PRINT FIELD: MCTS ROUTING INDICATOR;"MCST";L6//

XMMGR-BKFILE-ACTIVE_USERS/DEL

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template is used to display active users and message delivery information.

FIRST PRINT FIELD: DATE/TIME//
THEN PRINT FIELD: ACTIVE USERS#//
THEN PRINT FIELD: TOTAL QUEUE LENGTH#//
THEN PRINT FIELD: MESSAGE DELIVERIES MADE#//
THEN PRINT FIELD: RESPONSE DELIVERIES MADE#//
THEN PRINT FIELD: MESSAGE DELIVERIES IN QUEUE#//
THEN PRINT FIELD: RESPONSE DELIVERIES IN QUEUE#//

XMMGR-BKFILE-DEL_BY_GROUP

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template is used to generate output mail deliveries by delivery group. It will output two message delivery groups columns and three response delivery groups.

FIRST PRINT FIELD: DATE/TIME//
THEN PRINT FIELD: QUEUED DELIVERIES MESSAGE G1#//
THEN PRINT FIELD: QUEUED DELIVERIES MESSAGE G2#//
THEN PRINT FIELD: QUEUED DELIVERIES RESPONSE G1#//
THEN PRINT FIELD: QUEUED DELIVERIES RESPONSE G2#//
THEN PRINT FIELD: QUEUED DELIVERIES RESPONSE G3#//

XMMGR-BKFILE-LENGTH_OF_QUEUES

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template is used to output the length of mail delivery queues. Each queue is a column and two messages and three response columns are displayed.

FIRST PRINT FIELD: DATE/TIME//
THEN PRINT FIELD: TOTAL QUEUE LENGTH#//
THEN PRINT FIELD: MESSAGE NUMBER GROUP1#//
THEN PRINT FIELD: MESSAGE NUMBER GROUP2#//
THEN PRINT FIELD: RESPONSE NUMBER GROUP1#//
THEN PRINT FIELD: RESPONSE NUMBER GROUP2#//
THEN PRINT FIELD: RESPONSE NUMBER GROUP3#//

Internal Relations Templates

XMMGR-BKFILER-LONGTERM-STATS

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template is used to output statistics of mail deliveries by month.

FIRST PRINT FIELD: DATE/TIME//
THEN PRINT FIELD: MESSAGE NUMBER LAST ASSIGNED//
THEN PRINT FIELD: W:\$S('\$D(XMLAST):0,\$P(X,U,11)-
XMLAST>999999:0,\$P(X,U,11)-XMLAST>0:1,1:0) \$P(X,U,11)-XMLAST S
XMLAST=\$P(X,U,11); "New Messages"//

XMMGR-BKFILER-OLD_STATS/TABBED

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template will produce a report just like the XMMGR-BKFILER-STATS-PLUS template, except the output for this template generates is formatted for capture into a file that can then easily be converted into a graphical display.

FIRST PRINT FIELD: DATE(#.01);L12//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: TIME(#.01)//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: S
%XMNORMAL=\$S(\$D(^XMB(1,1,120001)):^(120001),1:"");X//
THEN PRINT FIELD: ACTIVE USERS;L6//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: W \$J(\$S('\$D(X):.1,X=0:.1,1:X)/%XMNORMAL,4,2);X//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: LINES OUTPUT;R6//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: W
\$J(\$S('\$D(X):.1,X=0:.1,1:X)/\$P(%XMNORMAL,"",2),8,2);X//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: MESSAGE DELIVERIES MADE;R10//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: S XMTEMP=X;X//
THEN PRINT FIELD: RESPONSE DELIVERIES MADE;R10//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: S Y=X+XMTEMP W
\$J(\$S('\$D(Y):.1,Y=0:.1,1:Y)/\$P(%XMNORMAL,"",3),7,2);X//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: MESSAGE DELIVERIES IN QUEUE;R10//
THEN PRINT FIELD: \$C(9);X//
THEN PRINT FIELD: S XMTEMP=X;X//

```
THEN PRINT FIELD: RESPONSE DELIVERIES IN QUEUE;R10//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: S Y=X+XMTEMP W
$J($S('$D(Y):.1,Y=0:.1,1:Y)/$P(%XMNORMAL,"",4),7,2);X//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: RESPONSE TIME - AVERAGE;R8//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: W
$J($S('$D(X):.1,X=0:.1,1:X)/$P(%XMNORMAL,"",5),4,2);X//
THEN PRINT FIELD: K %XMNORMAL;X//
```

XMMGR-BKFILE-QUEUE-WAIT

```
FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template is used to output the time messages
are waiting to be delivered in the mail delivery queues. Each
queue is a column and two message columns and three response
columns are displayed.
FIRST PRINT FIELD: DATE/TIME//
THEN PRINT FIELD: TOTAL QUEUE LENGTH#//
THEN PRINT FIELD: MESSAGE AGE GROUP1#//
THEN PRINT FIELD: MESSAGE AGE GROUP2#//
THEN PRINT FIELD: RESPONSE AGE GROUP1#//
THEN PRINT FIELD: RESPONSE AGE GROUP2#//
THEN PRINT FIELD: RESPONSE AGE GROUP3#//
```

XMMGR-BKFILE-STATS-PLUS

```
FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template gives important daily delivery
statistics.

FIRST PRINT FIELD: DATE/TIME//
THEN PRINT FIELD: ACTIVE USERS#//
THEN PRINT FIELD: LINES OUTPUT#//
THEN PRINT FIELD: MESSAGE DELIVERIES MADE#//
THEN PRINT FIELD: RESPONSE DELIVERIES MADE#//
THEN PRINT FIELD: MESSAGE AGE GROUP1#//
THEN PRINT FIELD: RESPONSE AGE GROUP1#//
THEN PRINT FIELD: MESSAGE DELIVERIES IN QUEUE#//
THEN PRINT FIELD: RESPONSE DELIVERIES IN QUEUE#//
THEN PRINT FIELD: RESPONSE TIME - AVERAGE#//
```

Internal Relations Templates

XMMGR-BKFILER-STATS/TABBED

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template will produce a report just like the XMMGR-BKFILER-STATS-PLUS template, except the output this template generates is formatted for capture into a file that can then easily be converted into a graphical display.

```
FIRST PRINT FIELD: DATE(#.01);L12//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: TIME(#.01)//
THEN PRINT FIELD: S XMTEMP=$P(X,U,21) W $C(9);X//
THEN PRINT FIELD: S %XMNORMAL=$S($D(^XMB(1,1,120001))^^(120001),1:"");X//
THEN PRINT FIELD: ACTIVE USERS;L6//
THEN PRINT FIELD: S Y=$P(X,U,21) W
"A"_$C(9)_$J($S('$D(Y):.1,Y=0:.1,1:Y)/%XMNORMAL,4,2);X//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: LINES OUTPUT;R6//
THEN PRINT FIELD: W
"L"_$C(9)_$J($S('$D(Y):.1,Y=0:.1,1:Y)/$P(%XMNORMAL,"",2),8,2);X//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: MESSAGE DELIVERIES MADE;R10//
THEN PRINT FIELD: S XMTEMP=Y;X//
THEN PRINT FIELD: RESPONSE DELIVERIES MADE;R10//
THEN PRINT FIELD: S Y=Y+XMTEMP W
"R"_$C(9)_$J($S('$D(Y):.1,Y=0:.1,1:Y)/$P(%XMNORMAL,"",3),7,2);X//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: MESSAGE DELIVERIES IN QUEUE;R10//
THEN PRINT FIELD: S XMTEMP=Y;X//
THEN PRINT FIELD: RESPONSE DELIVERIES IN QUEUE;R10//
THEN PRINT FIELD: S Y=Y+XMTEMP W
"Q"_$C(9)_$J($S('$D(Y):.1,Y=0:.1,1:Y)/$P(%XMNORMAL,"",4),7,2);X//
THEN PRINT FIELD: $C(9);X//
THEN PRINT FIELD: RESPONSE TIME - AVERAGE;R8//
THEN PRINT FIELD: W
"T"_$C(9)_$J($S('$D(Y):.1,Y=0:.1,1:Y)/$P(%XMNORMAL,"",5),4,2);X//
THEN PRINT FIELD: K %XMNORMAL;X//
```

XMMGR-BKFILER-TABBED-RT

FILE NAME: MESSAGE DELIVERY STATS
FILE NUMBER: 4.2998
READ ACCESS:
WRITE ACCESS:
DESCRIPTION: This template provides information about daily response time.

```
FIRST PRINT FIELD: DATE/TIME;X//
THEN PRINT FIELD: $C(9);X//
    THEN PRINT FIELD: RESPONSE TIME - AVERAGE//
```

Options which are not Independent

The options whose names begin with XMP and XMDX are not independently invocable or are for developer/support debugging only. They will not appear on any menu. The XMP options are used as PackMan options and are used from the menus executed from ^DOPT("XMP").

Help Frames

The complete list of MailMan Help Frames can be found in the On-Line Documentation section of this manual.

Internal Relations
Options which are not Independent

Package-wide Variables

The following package-wide variables have received SACC exemptions.

STANDARD SECTION: 4B Package-wide variables

DATE GRANTED: FEB 9,1989

XMDUN, XMDUNO, XMDUZ, and XMPRIV are package-wide variables for use in MailMan.

Package -wide Variables
SACC Exemptions

On-line Documentation

Exported file, routine, and global documentation may be generated through the use of the Kernel, MailMan, and FileManager utilities. Please see the Implementation and Maintenance and/or specific sections of this manual.

Help Frames

The following Help Frames are used to provide extensive on-line documentation.

XM-API-DISPLAYS-NUMBER	XM-API-FEATURES
XM-API-FORWARD-MESSAGE	XM-API-MAIL-GROUPS
XM-API-MESSAGE-QUERY	XM-API-REPLYING
XM-API-REQUESTING- INFORMATION	XM-BACKGROUND-FILER
XM-CONTROLLED-PRIORITY-MAIL	XM-COORDINATORS
XM-IN-BASKET-PURGE	XM-IN-BASKET-PURGE-1
XM-IN-BASKET-PURGE-2	XM-IN-BASKET-PURGE-3
XM-INQUIRY	XM-INTERNAL-MESSAGE-NUMBER
XM-LOCAL-LAST-SIGN-ON	XM-LOCAL-RESPONSES
XM-MASTER	XM-NEW-FEATURES
XM-NEW-FEATURES-7.0	XM-NEW-MAIL-LIST
XM-NEW-VERSION3.1FEATURES	XM-OUTPUT
XM-P-MESSAGE	XM-Q-DELETE
XM-Q-DISAPPEARED	XM-Q-INTERRUPT
XM-Q-LOOKUP	XM-Q-RECAL
XM-Q-REMOVE	XM-Q-REPLIES
XM-QUESTIONS	XM-SENDER-INFORMATION-ONLY
XM-SUGGESTION	XMANSWER
XMBULL+	XMDOMAIN+
XMEDIT	XMFLAGS+
XMGROUPMEMBER	XMHELP
XMHELP-MANUAL	XMHELP2
XMJOIN	XMKEYS+
XMMAILGROUP	XMMG-BULLETIN-MANY- MESSAGES
XMMG-LOCAL-DELIVERY- STATISTICS	XMMG-LOCAL-FIRST READ

XMMG-LOCAL-FORWARD	XMMG-LOCAL-INTEGRITY
XMMG-LOCAL-LARGE-REPORT	XMMG-NEW-FEATURES
XMMG-NEW-FEATURES-7.1	XMMG-NEW3.1FEATURES
XMMG-POSTMASTER-BULLETINS	XMMG-TYPE
XMNET-BLOB-HARDWARE	XMNET-BLOB-NETWORK
XMNET-CASE-SENSITIVE	XMNET-DIRECTORY-REQUEST-FLAG
XMNET-ERROR-COMMAND	XMNET-FORWARD-ADDRESS
XMNET-FTP-COMPONENTS	XMNET-FTP-REC-NETWORK-LOCATION
XMNET-KERNEL-SITE-PARAMETERS	XMNET-LPC-CHECKSUM
XMNET-MAIL-NAME	XMNET-MAILLINK
XMNET-MAILLINK-ADDRESS	XMNET-MAX-LINES
XMNET-MAX-TCP-CHANNEL	XMNET-MULTIMEDIA
XMNET-MULTIMEDIA-HARDWARE	XMNET-MULTIMEDIA-OVERVIEW
XMNET-NET-FEATURES-7.1	XMNET-NEW-FEATURES
XMNET-NEW-FEATURES1	XMNET-NEW-FEATURES2
XMNET-NEW-FEATURES3	XMNET-NEW-features
XMNET-NEW3.1FEATURES	XMNET-SENDER-REJECT
XMNET-SIZE-LIMIT	XMNET-TCP/IP
XMNET-TIME-ZONE	XMNETSEND+
XMNETWORK*	XMNEW
XMPACK-COMP	XMPACK-ENHANCED
XMPACK-GLO	XMPACK-INSTALL
XMPACK-PACKAGE	XMPACK-PRNT
XMPACK-ROU	XMPACK-SUM
XMPACKMAN	XMPARENT+
XMPHYSLINK	XPOLL+
XMQUERY+	XMQUEUE+
XMR-ACT-BACK	XMR-ACT-COPY
XMR-ACT-COPYA	XMR-ACT-COPYB
XMR-ACT-COPYC	XMR-ACT-COPYD
XMR-ACT-DELETE	XMR-ACT-E-SELECT
XMR-ACT-EDIT	XMR-ACT-EDIT2
XMR-ACT-EDIT3	XMR-ACT-FORWARD
XMR-ACT-NEW	XMR-ACT-NEW LATER (TICKLER)
XMR-ACT-PRINT	XMR-ACT-QUERY

XMR-ACT-REPLY	XMR-ACT-SAVE
XMR-ACT-TERM	XMR-ACT-VAPORIZE
XMR-ACT-WRITE	XMR-ACTION
XMR-ACTION-PRINT-W/O-HEADER	XMR-ACTION-PRIORITY-TOGGLE
XMR-ACTION-VAPORIZE	XMR-ACTION2
XMR-BASKET	XMR-MESS-HEADER
XMR-MESS-KEYWORD	XMR-MESS-RANGE
XMR-MESSAGE	XMR-RES
XMR-SEARCH	XMREAD
XMRELAY+	XMS-ADDRESS-CC
XMS-ADDRESS-INFO	XMS-ADDRESS-THRU
XMS-PRIORITY	XMS-RECIP-CONFIDENT
XMS-RECIPIENT	XMS-TEXT
XMS-TRANS	XMS-TRANS-CONFIRM
XMS-TRANS-EDIT	XMS-TRANS-SCR-HINT
XMS-TRANS-SCR-PASS	XMS-TRANS-SCRAMBLE
XMSCRIPT+	XMSEND
XMSHARE	XMSUBORDINATE+
XMTALK	XMTALK-CAPTURE
XMTALK-END	XMTALK-KERMIT
XMTALK-RETURN	XMTALK-USER
XMTROUBLE+	XMTURN+
XMUOPT-ASKBASKET	XMUOPT-BANNER
XMUOPT-BML	XMUOPT-INTRO
XMUOPT-SUR-ASSIGN	XMUOPT-SUR-ASSUME
XMUOPT-SURROGATE	XMUSEROPT
XMUT-%ZISL-SEND	XMUT-INTEGRITY
XMUT-REC-DEL	XMUT-REC-FIND
XMUT-REC-LIST	XMUT-RECOVER MESSAGES
XMUT-TAPE-TRANSMISSION	XMUT4-AUTOPURGE
XMVALID+	

Appendix I -- Trouble Shooting MailMan

Problem: User has No Mail box!

There are a number of symptoms that are caused by the simple fact that a user has no mail box. They are not always intuitively evident so here are a few examples.

- Mail can not be addressed to a user.
- A user received no responses to messages that he was a recipient of or originally sent.
- A user gets a message when entering a MailMan option that states that mail will not be delivered to him because he has no mail box.
- An <UNDEF> error occurs when File #3.7 is accessed.
- The background filer will not deliver messages or messages do not seem to be delivered (check Mail boxes of all message recipient).

In all cases the problem is easily remedied. There is an entry point that is non-destructive to existing data in File #3.7 that sets up all the basic information for a user's mail box. The mail box is an entry in File #3.7 that contains a pointer to File #3 where introductory text, some mail system parameters for an individual's mail basket and other information are stored.

To set up (or add a missing IN Basket and Waste Basket) in a mail box you must first find out the DUZ of the user in question. Then you do the following:

SET Y=the user's-DUZ D NEW^XM

Appendix II -- PackMan

Overview

PackMan allows messages to be stored and data such as package globals and routines to be transported. It may not be used unless the proper security key is held. In addition, PackMan messages may be secured, in which case, the user needs to know the SCRAMBLE HINT.

A newly enhanced feature in PackMan now includes the ability for users to add and edit descriptive text into a PackMan message before loading routine and global data using the Load PackMan Message option. It is no longer necessary to edit the message after loading the data, thus eliminating the potential for creating errors within the message.

The PackMan Menu

Routine Load	Loads routines into a message.
Global Load	Loads global information into a message.
Package Load	Loads a package as defined in the Package file.
Summarize Message	Summarizes the message content.
Print Message	Prints message, but recognizes content and sets it into a more readable format than the standard message print.
Install/Check Message	Checks the message for changes prior to installation.
Install Selected Routine(s)	Installs the routines and globals. Creates a back-up message of any routines that will be over-written, if you request it to.
Text Print/Display	Prints or displays the text.
Compare	Compares routines in a PackMan message to those that are currently in use.

Loading Routines into PackMan Messages

Routines may be loaded into a PackMan message. Once the routines are in a message, the print option in PackMan does a good job of formatting the output.

Loading Global Data into a PackMan Message

MailMan allows global data to be loaded into a message and saved there to be transported via Network mail. The data must conform to DHCP standards in order to insure that this option will work properly. When the global data is loaded in, the address is put onto one line and the data for that address onto a second line. Global data can be secured, but not scrambled. It can be reinstalled. Do not expect MailMan to be able to make a back-up message properly when installing a global.

Compare PackMan Message Routines against those Installed

The Compare option is available as a PackMan option. This option will check the data in the PackMan message against the routines, globals, and data dictionaries on disk and list all differences.

Installing a PackMan Message

Installing a message will replace the data on disk, but a backup message can be created before the installation takes place. Automatic backup is prompted for before installation is allowed.

If a message is secured, a security check takes place at the installation of the message. The message is checked against previously calculated sums and any changes will be considered as non-installable.

Note: If a message is installed that contains certain XM* routines (among them XMP2 and XMA1) a "clobber error" or "cannot return to source code" or similar error will result as you are writing over the routine you are installing. This is quite normal. It happens after the routine is written over. If the routine is at the beginning of the PackMan message, a consecutive install will proceed without the error, installing the rest of the parts of the message.

Summarize PackMan Message

The PackMan option for displaying a summary of a PackMan message does just that. Packages (and their parts), routines, globals, and anything else that can be loaded will be listed as being in the message when this option is chosen.

Loading an Entire Package into a PackMan Message

You can load an entire package through MailMan. This is an option given to the creator of a set of INITs during a DIFROM. This is a somewhat complex option, but the programmer need only answer that he wants the set of information he is compiling via a DIFROM to be loaded into a message. He or she will then be prompted for a Subject for the message and asked whether or not to secure the message. In this way a message can be created, secured and sent as a part of a DIFROM and the creator need never invoke a separate MailMan process.

There are these advantages in storing a DIFROM directly into a message:

- The message can be sent over the network faster because it is shorter.
- The message can be secured.
- The security is checked at installation.
- The installation goes directly from the message into the INIT saving steps for the installer.
- The installer need never be in programming mode since the install does not require any direct mode code.

Printing PackMan Messages

There is a special option for printing PackMan messages. This feature is particularly useful for routines that are reformatted so that the tags and lines of code are functionally aligned.

Editing PackMan Messages

Warning! Be very careful when editing these messages! It is important that you understand the reasoning for editing PackMan messages. It is particularly important since it is a mandatory requirement that verified patches released as PackMan messages include information from the patch as text in the message to facilitate patch installation.

Editing PackMan messages is a new feature, that allows you to create a message of global or routine data, and then edit it. It can be used to:

- Load up global data, and then change the global name.
- Load up global data and change every occurrence of a string.
- Load up routines and change every occurrence of a string (you may convert routines from one namespace to another).
- Add text explaining the name and purpose of the PackMan message.

Recommendation: It is recommended that global data not be included in a PackMan message that is being distributed as a patch. This is because the facilities of PackMan that are used to check any edits of the message cannot detect many problems.

Warning! Always test the installation of all patches after editing. Users can check that the edit probably did not effect the integrity of the parts of the PackMan message, however, an actual installation of the message is final proof.

Why Editing PackMan Messages can Cause Problems

PackMan utilities depend on the format of the message to determine content. Special character strings that begin with \$ denote the beginning and ending points of sections of the message. The reason that \$s are used is that it is not possible for a line of MUMPS code to begin with the \$ character. All lines that do not begin with a tag must begin with a line-start character, which is always a control character or a space character. The \$ is not a valid tag. Therefore, any edit of a PackMan message that leaves lines beginning with a \$ character may cause a problem.

- All lines that begin with the \$ character have special format. If any one is changed, the integrity of the message is compromised.

- All routines and globals in the PackMan message have a special format. Inserting a line, or changing a character in the wrong place can create a situation in which the message will not be installable at all. Partial installation may occur, leaving a partially updated functionality in place. This could cause problems.

Ways to Ensure Integrity

- Create the PackMan Message, call it #1 and edit it appropriately.
- Create the PackMan Message, call it #2 with the same routines. ****Do not edit this message.**
- Read Message #1 and check for the following and compare it to Message #2:
 - No lines should have been added that have the \$ character as the first character. (Check questions against Message #2.)
 - All changes should have occurred after the first line of a message segment that begins with "STXT" and the second line of a message segment that begins "\$ROU". (Check questions against Message #2.)
- Use the PackMan Compare Utility to check Message #1 against the routines originally loaded. Differences indicate a problem and must be checked. If there are differences, restart this process and correct procedures so that problems do not recur.
- Use the PackMan install utility to install Message #1. There should not be warnings and the message should not cause any MUMPS errors. If it does, restart this process and correct procedures so that problems do not reoccur. To restart the process, it will be necessary to install Message #2. Message #2 serves as a backup of the original routines.
- Use the PackMan Compare Utility to check Message #2 against the routines that are now on the disk (should now be from Message #1). If there are differences, restart this process and correct procedures so that the differences do not recur.

When saving a copy of a routine that hasn't been edited, you may answer "YES" to the question "Do you wish to secure this message? NO// ". At this point, you will be asked to enter a scramble hint and the message will be inaccessible to anyone that doesn't know the password. If the message is changed, it will be noticed upon using the INSTALL/CHECK option under the XMPACK menu. You may check it by sending it to a user without any privileges. When that user tries to install it, integrity checking will be performed but no installation will take place.

Appendix II-- PackMan

Example:

Select MailMan Menu Option: **OTHER** MailMan Functions

```
BML    List Contents of All Baskets
CLD    Change/Delete LATER'D Messages
EML    Edit user options
FWD    Forwarding Address Edit
GML    Group membership
LML    Load PackMan Message
MML    Message Search by Sender/Date
PML    Personal Group Enter/Edit
RLM    Report on LATER'D Messages
TML    TalkMan
```

Select Other MailMan Functions Option: **LOAD** PackMan Message

Subject: **XMPACK Documentation Test 11/3**

Please enter description of PACKMAN Message
or press Return Key to exit.

1>**This is a test.**

EDIT Option:<RET>

Created by PARKER,ROSELYN at TCP1.BIG-SITE.VA.GOV on WEDNESDAY,
11/03/93 at 13:14

Select PackMan function: **Routine LOAD**

routine(s) ? > **XMA0**

routine(s) ? > **<RET>**

Loading XMA0

Select PackMan function: **<RET>**

Send mail to: PARKER,ROSELYN// **<RET>**

Select basket to send to: IN//**<RET>**

And send to: **<RET>**

Do you wish to secure this message? NO// **<RET>** (NO)

Select TRANSMIT option: Transmit now// **<RET>**

Delivering [31983]... .

Sent

Select Other MailMan Functions Option: **<RET>**

```
AML    Assume another identity as a surrogate
HML    MailMan Help ...
NML    New messages and responses
OML    Other MailMan Functions ...
RML    Read a message
SML    Send a Message
```

Select MailMan Menu Option: **READ** a message

Read MAIL BASKET: IN// **<RET>**

LAST Message Number: 18 Messages in BASKET: 6 (2 NEW)

IN Basket Message: 12// **31983**

Subj: XMPACK Documentation Test 11/3 [#31983] 03 Nov 93 13:13 108 Lines
 From: PARKER,ROSELYN in 'IN' basket. Page 1

 \$TXT Created by PARKER,ROSELYN at TCP1.BIG-SITE.VA.GOV on WEDNESDAY, 11/03/93
 at 13:14

This is a test.

\$END TXT
 \$ROU XMS5A

```
XMS5A ;(WASH ISC)/CAP/AML/RJ-Query into message queues ;4/12/93 17:34 ;
;7.1T;MailMan-Test;Oct 05, 1993
D ^%ZIS Q:POP U IO
D NOW^%DTC K %I,%H S A=$E(%,6,7)_"
"$P("Jan^Feb^Mar^Apr^May^Jun^Jul^Aug^Sep^Oct^Nov^Dec",U,$E(%,4,5))_"
"$E(%,2,3)
I %\1'=% S %=$P(%,",",2)_"0000",A=A_" "$E(%,1,2)_" ":"_E(%,3,4)
S XMD0=A K DIR S (XMF0,XMF0("PG"),XMC0,XME0)=0,DIR(0)="E"
Q S XMF0=$O(^DIC(4.2,"B",XMF0)) I XMF0="" G END
S XMA=0 D M G:XMA<1 Q:XMB0=""
I +XMB0=0 S XMA0="" G W
S %H=$P(XMB0,"^",1) D TT^%DTC S
%=$P(%H,"",2),%=%#3600\60/100+(%\3600)/100,%=X_$S(%%,1:""),Y=% X ^DD("DD") S
Y=$P(Y,"",1)_" "$P(Y,"@",2)
S XMA0=Y_"^"_$P(XMB0,"^",2,6)
W ;write results
I $Y+5>IOSL!'XMF0("PG") S X="" D:'$D(ZTQUEUED)&XMF0("PG") ^DIR:IOST?'1"C-
".E K DIRUT D HD G END:X=U
S XMC0=XMC0+1 I $P(XMA0,U,4)<0 S $P(XMA0,U,4)=0
W!,XMB,?18,$J(XMA,6),?25,$P(XMA0,"^",1),?40,$P(XMA0,"^",2),?48,$P(XMA0,"
^",3),?54,$J($P(XMA0,"^",4),4),?59,$J($P(XMA0,"^",5)\1,4),?68,$P(XMA0,"^",
6)
G Q
M ;number in queue
S XMA=$S($D(^XMB(3.7,.5,2,XMG0+1000,0)):$P(^0,U,5),1:0) Q
HD S XMF0("PG")=XMF0("PG")+1 W @IOF,!,"TRANSMISSION QUEUE STATUS
REPORT",?79-$L(XMD0),XMD0,!,"At "^XMB("NETNAME"),?70,"Page: "_XMF0("PG"),!
W !,"Domain",?18,"Queued",?25,"Updated",?40,"Msg # Line
Errors Rate IO",!
Q
END I $D(XMC0),XMC0<1 D HD:IOST?'1"C".E&'XMF0("PG") W !,"No
messages queued or in active transmission.",!
K %,%H,%I,DIR,I,X,XMC0,XMB,XME0,XMB0,XMA0,XMA,XMG0,XMF0,Y
D ^%ZISC
Q
CONT ;CONTINUOUS DISPLAY
D XMS5A R !,X:10 Q:$T G CONT
GO W !! G XMS5A
>
$END ROU XMS5A
```

Select MESSAGE Action: IGNORE (in IN basket)//<RET> Ignored

Installing PackMan Messages into a Second Account

Several suggestions follow for installing a PackMan message in a different account from the one in which it was received. This is often necessary when patches or new versions of programs arrive in MailMan on a production account and need to be installed in a test account that does not have MailMan installed.

1. **Install MailMan in the test account and then forward the message. As PackMan messages come into your production account they can automatically be forwarded to the test account.**
 - a. **You can add an entry to the DOMAIN file for TRN.YOUR. You can forward the PackMan message to that domain from VAH.**
 - b. **Establish INTER-UCI Network Mail using a subordinate domain and port-to-port Equinox connections. You can receive mail in production and forward it to the test account as new mail.**
 - c. **Play a script from TRN when you are ready to receive the patch.**

or you can also use Inter UCI options.
2. **You will be receiving Toolkit, 7.2 soon. This will provide an option to load a host file into a mail message. Therefore you can try the following**
 - a. **Headerless Print your PackMan message to your HFS device from production.**
 - b. **Then in your test system use Toolkit to move the host file back into MailMan. The routine can then be unpacked.**
3. **If you are a VAX site and the XMB global is translated to your test UCI, you can login from the VMS level with the following:**

\$ DSM/UCI=VAH/VOL=ROU/ROUTINES=[TST,ROU]

Then you would access MailMan and load in the routine message. The routines would go directly into TST, but you would be using the globals in VAH.

Appendix III -- TalkMan

Overview

TalkMan - Communications Tool

TalkMan [XMTALK] allows users to share communication capabilities outside the facility. It is simply a rudimentary script processor/language. TalkMan is dumb in the sense that it does not know what kind of device it is communicating with. The user must know. A new domain must be set up first. In setting up a TalkMan domain, you specify to TalkMan the script(s) you would like to play, the specific port/hunt group as its physical link device to open and the transmission protocol to use. You must also enter the "T" character in the Flags field of the Domain file for the TalkMan Domain you are creating.

Note: If you follow the IDCU naming convention, everyone should use the "VAMCxxx" as the destination address.

In the script(s) you create for the TalkMan Domain, you must also enter the commands and words for TalkMan to send to the other system or look for from the connected system

When <ESC> is entered, there will be an opportunity to do the following:

RETURN	Return to user TalkMan session (Press the <RET> key);
CAPTURE	Capture user session into a Message. The SUBJECT is [If your name is Last,First], "LAST,FIRST CAPTURE @ <date & time>";
END	End the TalkMan session.

How to Capture a Session into a MailMan Message

When the user enters TalkMan, the Capture feature is in an off state. Activate Capture by pressing the <ESC> key and answering "C" to the command prompt.

When Capture is on, a message is being delivered into the user's IN basket. The message contains the text (minus control characters) of the interaction during the TalkMan session. Since TalkMan does not know the content, TalkMan separates it into lines of 75 characters or less.

It may be very inappropriate to turn on TalkMan during a session when users are working with software that does screen management.

When viewers are ready to stop the Capture, they may do so by pressing the <ESC> key and entering "E" to End your session, or "S" to Stop the text capture.

How to End a TalkMan Session

While a TalkMan session is in progress, users may strike the <ctrl A> key at any time. This takes the viewer to the command line. A prompt appears for the user to type in a command. "E" as the response (followed by hitting the <RET> key) will END the TalkMan session. The user will then be back on the machine from which TalkMan was invoked.

How to Continue a TalkMan Session

If a viewer were using TalkMan and pressed the <ESC> key, he might find himself at the command line. Pressing the <RET> key will return you to the TalkMan session.

Advantages and Disadvantages of Using TalkMan and IDCU

The advantages and disadvantages of implementing the TalkMan utilities are shown below.

Advantages

Users can access IDCU and FORUM via the TalkMan utilities in MailMan. This allows for greater security, control, and ease of use.

TalkMan's dialogue capture is useful.

TalkMan can be used extensively for all communications outside the facility, without additional passwords.

When properly set up, the TalkMan domain will have your rotary ports as the address and not the network address.

Disadvantages

More data gets stored in the ^XMB global.

Advantages

This procedure can be used to leave a message on a printer or to connect with another system via WAN/dial-up modem/direct lines. Any computer devices that are addressable directly by MUMPS can be used with TalkMan.

No noticeable system degradation.

Simple set up and easy system management.

Disadvantages

Appendix IV -- Kernel Site Parameters for MailMan

This section describes editing of the Kernel Site Parameters for the MailMan to specifically name the system installed at your site. It is the name of this installation of the Kernel Version 7.1 software, as it is known to the rest of the network and it must appear in the Domain file.

The example on the following pages shows actual system prompts, helpful field descriptions and file data. Review this example to properly edit the Kernel Site Parameters for the MailMan file on your system.

Note: Entering a double question mark "??" at the field prompts will display a full description of data required to be entered.

```
MailMan 7.1 service for PARKER,ROSELYN@BIG-SITE.VA.GOV
You last used MailMan: DD MM YY HH:MM
```

```
Check MailMan Files for Errors
  **> Not available on MO-FR 0800-1700
Create a Mail box for a user
Disk Space Management ...
Group/Distribution Management ...
Kernel Site Parameters for MailMan
Local Delivery Management ...
Network Management ...
New Features for Managing MailMan
```

```
Select Manage MailMan Option: KERNEL Site Parameters for MailMan
```

```
Select KERNEL SITE PARAMETERS DOMAIN NAME: ??
1          BIG-SITE.VA.GOV
```

This is the name of this installation of the Kernel, as it is known to the rest of the network. It must appear in the DOMAIN file. This name applies to all CPUs or Volume sets which access this ^XMB global.

```
CHOOSE FROM:
ALBANY.VA.GOV
ALBUQUERQUE.VA.GOV
ALEXANDRIA.VA.GOV
ALLEN-PARK.VA.GOV
ALTOONA.VA.GOV
AMARILLO.VA.GOV
AMDAHL.FOC-AUSTIN.VA.GOV
ANCHORAGE.VA.GOV
ANN-ARBOR.VA.GOV
ASHEVILLE.VA.GOV
ATLANTA.VA.GOV
AUGUSTA.VA.GOV
BALTIMORE.VA.GOV
BATAVIA.VA.GOV
BATH.VA.GOV
BATTLE-CREEK.VA.GOV
```

Appendix IV -- Kernel Site Parameters

BAY-PINES.VA.GOV
BDC.VA.GOV
BECKLEY.VA.GOV
BEDFORD.VA.GOV
BIG-SITE.VA.GOV
'^' TO STOP: ^

Select KERNEL SITE PARAMETERS DOMAIN NAME: **1** BIG-SITE.VA.GOV
TIME ZONE: EDT// ??

Enter the time zone of this domain.

ANSWER WITH MAILMAN TIME ZONE CODE, OR TIME ZONE NAME

DO YOU WANT THE ENTIRE 18-ENTRY MAILMAN TIME ZONE LIST? **N** (NO)

TIME ZONE: EDT// <RET>

PARENT: BIG-SITE.VA.GOV// ??

This field holds the name of the domain which is considered the parent of this domain. The parent domain's subordinate domain list will contain this domain, also.

Parent domains are used for routing messages when a subordinate domain does not know a direct path to the selected domain.

Domains are connected to their parents as follows:

1. The local domain is named.
2. The parent is named at the local site.
3. A script from the parent to the subordinate domain is created.
4. A christening operation is performed by the parent domain.
When the subordinate domain is christened, the domain is connected to the network. (Mail may be addressed to remote domains)

CHOOSE FROM:

ALBANY.VA.GOV
ALBUQUERQUE.VA.GOV
ALEXANDRIA.VA.GOV
ALLEN-PARK.VA.GOV
ALTOONA.VA.GOV
AMARILLO.VA.GOV
AMDAHL.FOC-AUSTIN.VA.GOV
ANCHORAGE.VA.GOV
ANN-ARBOR.VA.GOV
ASHEVILLE.VA.GOV
ATLANTA.VA.GOV
AUGUSTA.VA.GOV
BALTIMORE.VA.GOV
BATAVIA.VA.GOV
BATH.VA.GOV
BATTLE-CREEK.VA.GOV
BAY-PINES.VA.GOV
BDC.VA.GOV
BECKLEY.VA.GOV
BEDFORD.VA.GOV
BIG-SITE.VA.GOV
'^' TO STOP: ^

PARENT: BIG-SITE.VA.GOV// <RET>

AUTOMATIC INTEGRITY CHECK: YES// ??

XMAUTOPURGE is generally run at least once a week at most sites. It is the process that purges messages that are no longer referenced. Before it is run, XMCLEAN is generally run. XMCLEAN removes messages from WASTE baskets so that they will be unreferenced when XMAUTOPURGE comes along. XMAUTOPURGE kicks off the part of XMUTCHECKFILE that checks the Mail Box file. XMUTCHECKFILE also resets and cleans up the x-refs of this file. If your system has had fairly clean runs of XMUTCHECKFILE or if the entire XMUTCHECKFILE process is run regularly as a separate process, it is not necessary for XMAUTOPURGE to run any part of it again.

CHOOSE FROM:

0	YES
1	NO

AUTOMATIC INTEGRITY CHECK: YES// <RET>

SHOW INSTITUTION IN MAILMAN?: YES// ??

This field controls whether mailman will show the user's organization after his name. This is useful when MailMan has many remote users, who may not know each other's location or affiliation.

CHOOSE FROM:

y	YES
n	NO

SHOW INSTITUTION IN MAILMAN?: YES// <RET>

MESSAGE ACTION DEFAULT: DELETE// ??

The message action default in the Kernel Site Parameters file will be used to supply the default for the user prompt "Message Action". It may be over-ridden by the field by the same name in the Mail Box file. User may enter this over-ride by choosing the "Edit User Option" option.

CHOOSE FROM:

I	IGNORE
D	DELETE

MESSAGE ACTION DEFAULT: DELETE// <RET>

MESSAGE COPY LIMIT - RCPT: ??

This field allows site management to control whether or not message may be copied. If a user tries to copy a message that has more than either the number in this field or a default of 2999 recipients he will be told that he may not do so.

MESSAGE COPY LIMIT - RCPT: <RET>

MESSAGE COPY LIMIT - RESPONSES: ??

This field will allow site management to limit message that may be copied by the number of responses it has. A message with more than the number of responses in this field can not be copied. If there is nothing in this field the default limit is 99.

MESSAGE COPY LIMIT - RESPONSES: <RET>

MESSAGE COPY LIMIT - LINES: 999// ??

This field allows the systems management staff to limit users from copying message. If the field is not filled in, the limit is 3999 lines in both the message and its' response chain.

MESSAGE COPY LIMIT - LINES: 999// <RET>

REQUIRE INTRO'S IN MAILMAN?: NO// ??

If this is turned on, then users must introduce themselves when they first log in to MailMan. This forces users to describe themselves, and enter their phone numbers and addresses for others to query.

CHOOSE FROM:

y	YES
n	NO

REQUIRE INTRO'S IN MAILMAN?: NO//<RET>

FWD TEST MESSAGE TO POSTMASTER: ??

Appendix IV -- Kernel Site Parameters

CHOOSE FROM:
1 NO
0 YES

FWD TEST MESSAGE TO POSTMASTER: **<RET>**
CPU (UCI,VOL) FOR XMD TO RUN: ??

Use this field to indicate where you want the XMD routine, the MailMan background filer, to run. It is recommended that the XMB global also reside in this location. If you are unsure what to enter leave this field blank.

CPU (UCI,VOL) FOR XMD TO RUN: **<RET>**
FTP ADDRESS FOR BLOB <GET>: ??
FTP ADDRESS FOR BLOB <GET>: **<RET>**
FTP RECIEVE DIRECTORY: ??

This field is used to store the path for BLOBs to be received in. It is communicated to the transmitter of messages containing BLOBS so that they can be FTP'd to the correct directory once the disk has been designated with field 7.711.

If the receiving system is a DOS system the disk portion of the path is in the field 'FTP RECEIVE DISK'.

FTP RECIEVE DIRECTORY: **<RET>**
FTP RECEIVE NETWORK LOCATION: ??

This field should be the name of an entry in your 2005.2 file (Network Location). It maps where incoming BLOBs will be placed and is the logical equivalent of field 7.7.

FTP RECEIVE NETWORK LOCATION: **<RET>**
FTP RECEIVE DISK: ??

This field contains the name of the physical disk that the FTP Receive Network Location is on if the receiving system is a DOS system.

FTP RECEIVE DISK: **<RET>**
FTP ADDRESS FOR BLOB RECEIVE: ??
FTP ADDRESS FOR BLOB RECEIVE: **<RET>**
FTP USERNAME: ??

This is the VMS username that the sender will be told to use when he FTP's BLOBs to this domain.

FTP USERNAME: **<RET>**
FTP PASSWORD: ??

This is the password if any that a BLOB sender needs to have when he FTPs into the system.

FTP PASSWORD: **<RET>**
FTP NOTES: ??

1>Free-text field for FTP notes.
2>

EDIT Option: **<RET>**
LPC CHECKSUM: ??

The code in this field will be obsolete after installation of KERNEL 6, if the "LPC" node in ^%ZOSF [^%ZOSF("LPC")] is defined. This field is inserted by the MailMan POST-init if the ^%ZOSF("OS") is defined, contains "DSM" and does not contain "VAX". This is because of a situation that exists where DSM for PDP-aa series used to use on \$ZCALL anbd in the updated version uses a slightly different one. Both do not exist in one system.

The way it is inserted is by setting an error trap and then trying one. If it doesn't work, it must be the onther.

LPC CHECKSUM: **<RET>**
TCP CHANNEL - MAXIMUM TO USE: ??

This field contains a value that is checked before starting a process to transmit mail via a TCP/IP channel. If there are already as many processes running as is in this field, no process is started.

TCP CHANNEL - MAXIMUM TO USE: **<RET>**

MM STAT NORMALIZATION: ??

This option allows the user to customize the normalized report.

MM STAT NORMALIZATION: **<RET>**

MESSAGES LINES FOR XMUT2: ??

This field contains a number whose value is corresponds to the smallest number of lines that the site would like to have reported on routine XMUT2 - 'Messages with many lines and few owners'.

MESSAGES LINES FOR XMUT2: **<RET>**

RECORD NETMAIL TRANSCRIPT?: ??

This field allows the System Manager to turn on and off (toggle) whether or not MailMan records all script transcripts in background. The send portion of scripts played (using the 'Play Script' option) will not be recorded.

CHOOSE FROM:

1	YES
0	NO

RECORD NETMAIL TRANSCRIPT?: **<RET>**

XMITS TILL ERROR MESSAGE: ??

XMITS TILL ERROR MESSAGE: **<RET>**

NETWORK - MAX LINES @ SEND TO: ??

NETWORK - MAX LINES @ SEND TO: **<RET>**

DIRECTORY REQUEST FLAG: ??

This field controls whether or not the XMMGR-DIRECTORY-RECV option will grant request from remote site to send domain user directory information.

If the value is null or zero, request is rejected. If the value is a positive integer, a request is granted and domain user directory will be made available to the remote site.

DIRECTORY REQUEST FLAG: **<RET>**

VADATS NAME: ??

VADATS NAME: **<RET>**

AGENCY CODE: VA// ??

This field defines what agency uses this computer. It sets a flag which may be accessed by application programs which need to know this information

For example, a scheduling program may operate one way in an Air Force environment, and another in a VA environment.

CHOOSE FROM:

V	VA
AF	AIR FORCE
I	IHS
ARMY	ARMY
N	NAVY
O	OTHER

AGENCY CODE: VA// **<RET>**

MESSAGE RETENTION DAYS: 30// ??

This field is used to control the number of days that mail may remain unaccessed in a users 'IN' basket before it becomes eligible for purging. When this date is passed a routine that the System Manager may choose to run will send each user that has messages that have remained unaccessed a message listing these messages and stating that they will be purged in an

Appendix IV -- Kernel Site Parameters

additional 30 days if they remain in the 'IN' basket and are not accessed again. If this field is not filled in the default is 30 days.

MESSAGE RETENTION DAYS: 30// <RET>
IN-BASKET-PURGE TYPE: ??

Enter 0 or delete the data in this field if the IN-BASKET-PURGE should be run only for users IN Baskets.

Enter 1 if the IN-BASKET-PURGE should process messages that are in **ALL** users mail baskets. This is not the normal way for this process to be run. It is recommended that you discuss this with site management and get user input before doing this.

This field controls the extent of the IN-BASKET-PURGE. If is is not filled in the effect on the IN-BASKET-PURGE is the same as it would be if the value of the field is zero.

The field can have the following values:

0 = The IN-BASKET-PURGE will effect on users IN Baskets
1 = The IN-BASKET-PURGE will effect all the baskets of each user.

In either case the users will be sent the now familiar message listing the messages that will be deleted from their baskets in 30 days. In either case the field 'MESSAGE RETENTION DAYS' will control how long a message can remain inactive in a basket before it is considered okay to put on the list of messages to be considered for deletion.

CHOOSE FROM:
0 IN BASKET ONLY
1 ALL BASKETS
IN-BASKET-PURGE TYPE: <RET>
BACKGROUND FILER HANG TIME: ??

This field is used by the background filer when it is started up to determine the amount of time it will hang between deliveries of messages. Since mail is not delivered, even to the sender, unless the backgournd filer delivers it, it should not be too long a period so that your users are inconvenienced.

If this field is not filled in the background filer will hang for 5 seconds between deliveries. 5 to 15 seconds is the recommended range.

BACKGROUND FILER HANG TIME: <RET>
BACKGROUND FILER RUN FLAG: OKAY TO RUN// ??

CHOOSE FROM:
1 STOP RUNNING
0 OKAY TO RUN
BACKGROUND FILER RUN FLAG: OKAY TO RUN// <RET>
BACKGROUND FILER RUN PRIORITY: ??

This field will be used by the routine XMADGO to set the priority of the background filer at runtime.

BACKGROUND FILER RUN PRIORITY: <RET>
BACKGROUND MESSAGE DELIVERERS: ??

Enter a set of numbers separated by commas. Each number designates a number of recipients in a message. You determine the number of delivery queues there will be by what you enter in this field. A null entry means

there will be one queue. Each NON-ZERO number must be smaller than the next.number in the list as follows:

If you enter simply the number 10 it means that there will be two queues. The first will deliver messages with less than 10 recipients. The second will deliver messages with 10 or more recipients.

If you enter '50,100,200' there will be four (4) queues. The first will deliver messages with less than 50 recipients. The second will deliver messages with from 50 to 99 recipients. The third will deliver messages with from 100 to 199 recipients. The fourth and last will deliver messages with more than 199 (200 or more) recipients.

*** IMPORTANT !!! Maximum = 10 message and 10 response deliverers. ***

This field is used by the delivery routines to determine how many queues there should be and how to separate them.

BACKGROUND MESSAGE DELIVERERS: <RET>

BACKGROUND RESPONSE DELIVERERS: ??

Enter a set of numbers separated by commas. Each number designates a number of recipients in a message. You determine the number of delivery queues there will be by what you enter in this field. A null entry means there will be one queue. Each NON-ZERO number must be smaller than the next.number in the list as follows:

If you enter simply the number 10 it means that there will be two queues. The first will deliver messages with less than 10 recipients. The second will deliver messages with 10 or more recipients.

If you enter '50,100,200' there will be four (4) queues. The first will deliver messages with less than 50 recipients. The second will deliver messages with from 50 to 99 recipients. The third will deliver messages with from 100 to 199 recipients. The fourth and last will deliver messages with more than 199 (200 or more) recipients.

*** IMPORTANT !!! Maximum = 10 message and 10 response deliverers. ***

This field is used by the response delivery routines to determine how many response delivery queues there will be and how they will be separated.

BACKGROUND RESPONSE DELIVERERS:

Select KERNEL SITE PARAMETERS DOMAIN NAME: <RET>

Appendix IV -- Kernel Site Parameters

Appendix V -- MailMan Integrity Checker (XMUT-CHKFIL)

The MailMan Integrity Checker module is intended to automatically identify and correct some errors that may occur. It is used as part of the XMAUTOPURGE sequence. It makes sure that the "M" cross-reference of File #3.7 has all the required entries. It can also be run standalone. The integrity checker allows the system manager to look for potential problems that appear in the B-Tree disk structure. Some errors can be ignored, or placed on a higher or lower priority list because of how they may affect your system. The information below will help you to decipher that list.

Error Displays

Errors are listed in a general format. Important pieces of data are listed along with the error. This way, the programmer can relate the errors to the appropriate file.

XMDUZ	DUZ	The .01 field of the Mail Box file (^XMB(3.7,XMDUZ, . . .)
Basket		The message basket in which the error occurred (^XMB(3.7,XMDUZ,2,basket . . .)
XMZ or SEQ#		The message number that the error applies to. Either (^XMB(3.7,XMDUZ,2,1,XMZ,0) or (^XMZ(3.9,XMZ . . .) .

Each error has a Type label. This is a number associated with a description.

```
TYPE:      10      << IN 'M' > > >> **   XMDUZ=3,BASKET=1 XMZ=999
```

The types are numbered so that a summary of the errors may be listed at the bottom of the report. If the report is left running unsupervised, it may print out a lot of characters that indicate it is progressing through the files. At the end of each report, the number of errors reported is listed.

The string "<<< in 'M' > 1 >>>" describes the error. This is shorthand for, "The message was in the "M" cross-reference of File #3.7 for one user more than one time." This usually means that the user has the message in more than one basket. This is not an error you need to correct. It will not cause any large problems. However, it may cause a user to see the same message as "new" multiple times (as many are in the "M" cross-reference).

The rest of the string describes the "M" cross-reference subscripts. You should find an entry elsewhere in the listing that has the same XMDUZ and XMZ, but different basket numbers. It is in multiple baskets.

Error Type Dictionary

Some errors are automatically corrected by the MailMan Integrity Checker and some are not. For instance, Error Type: 3 causes the integrity checker to renumber the Mail Basket in question. Each error that is automatically corrected is so flagged.

```
TYPE: 2 <<< BSKT SEQ#, NO 'C' X-REF >>>
***NOT CORRECTED AUTOMATICALLY***
```

This means that a message in a mail basket has a sequence number, but it is not in the "C" cross-reference for that basket. When this occurs, it can easily be corrected by signing on as the user and reading the affected basket, ordering it to be renumbered. A user with this problem would not see the message listed unless he did a search.

```
TYPE: 3 <<< 'M' X-REF, NOT MLBX-FIXED >>>
***CORRECTED AUTOMATICALLY***
```

This error means that a message was found in the "M" cross-reference, but not in the mail basket it was pointing to. If it were the only "M" cross-reference entry, the message would not be purged when it should be. The message is removed from the "M" cross-reference.

```
TYPE: 4 <<< MESSAGE - NO SEQ# >>>
***CORRECTED AUTOMATICALLY***
```

This error means that a message in a mail basket has no sequence number. This error is corrected by renumbering the mail basket.

```
TYPE: 6 <<< BSKT ENTRY NO MSG - FIXED >>>
***CORRECTED AUTOMATICALLY***
```

A message in a basket has no text associated with it. There is no entry for the message in File #3.9. The message is removed using KL^XMA1B.

```
TYPE: 9 <<< BAD/NO 0 NODE >>>
***NOT AUTOMATICALLY CORRECTED***
```

This error means that an entry in File #3.9 exists with no zero node [^XMB(3.9,XMZ,0)]. A message of this kind usually is not owned by anyone and can be deleted. Entries like this can be created by Network Mail. The site received a message where the transmission did not end gracefully before MailMan could recognize this and kill off the incomplete transmission.

```
TYPE: 12      <<< RECPT iii OF nnnn W/NO OR BAD 0 NODE >>>
***CORRECTED AUTOMATICALLY***
```

There is a recipient of message (XMZ=nnnn) whose zero node is undefined or does not have correct information. The correction is to create a new zero node: S ^XMB(3.9,XMZ,1,III,0) = Pointer in File #200. This error is sometimes found with a corresponding Type:13 error.

```
TYPE: 13      <<< MESS#nnnnRECPTiii/jjj IN 'C' REF/NO
                RECPT,0 NODE >>>
***CORRECTED AUTOMATICALLY***
```

There is a recipient of message (XMZ=nnnn) whose zero node is undefined or does not have correct information. The correction is to create a new zero node: S ^XMB(3.9,XMZ,1,III,0) = Pointer to File #200. The difference between this error and the Type: 12 error is that this error was found while passing the "C" cross-reference of the message recipients; and Type:12 errors were found while parsing the data nodes.

```
TYPE: 14      <<< NO BKT 0 NODE - FIXED >>>
***CORRECTED AUTOMATICALLY***
```

The mail basket in question has no zero node, but it does have messages or data that looks like messages. Correcting this error type requires some knowledge of MailMan. The easiest way to correct this error is to create a zero node for the basket, checking the cross-reference [^XMB(3.7,XMDUZ,2,"B")] to see if it is already pointing to it. If so, set the node with the same text as the cross-reference indicates. The correct number of messages flagged as "new" is set.

```
TYPE: 17      <<< NOT IN 'M' X REF - FIXED >>>
***CORRECTED AUTOMATICALLY***
```

A message was found in a basket that did not have an "M" cross-reference. This could be a bad error because it may allow a message that only this user kept in a basket to be purged. An "M" cross-reference for the message is then created.

```
TYPE: 18      <<< NEW,NOT IN BASKET >>>
***NOT CORRECTED AUTOMATICALLY***
```

This error means that a message exists in the "N0" cross-reference of File #3.7, but is not in the user's mail basket. It can be corrected while the user is reading New mail.

TYPE: 19 <<< NEW,NO MESSAGE TEXT - FIXED >>>
CORRECTED AUTOMATICALLY

This error means a message exists in the "N0" cross-reference of File #3.7, but has no text and is not in the user's mail basket and there is no entry into File #3.9. The message is removed using KL^XMA1B.

TYPE: 20 <<< MESSAGE - NO SUBJECT >>>
NOT CORRECTED AUTOMATICALLY

This error is corrected when the user attempts to read the message and the entry is removed from the mail box.

TYPE: 21 <<< MESSAGE - BAD SUBJECT >>>
NOT CORRECTED AUTOMATICALLY

Most of the Type 21 errors were created by versions of MailMan prior to Version 3.1 and do no harm. MailMan Version 7.1 does not allow messages with the subject text less than three characters or more than 65 characters in length. Leading and trailing blanks are removed.

TYPE: 22 <<< MESSAGE - NO SENDER >>>
NOT CORRECTED AUTOMATICALLY

This error would not cause any problems and should not be corrected.

TYPE: 23 <<< MESSAGE - NO DATE & TIME >>>
NOT CORRECTED AUTOMATICALLY

This error would not cause any problems and should not be corrected.

TYPE: 24 <<< MESSAGE - SENDER NOT RECIPIENT >>>

This is not really an error. It is for informational purposes only.


```
TYPE: 25 <<< MESSAGE - NO MESSAGE nnnn FOR RESPONSE rrrr >>>
***NOT CORRECTED AUTOMATICALLY***
```

Each response is associated with a message. Usually, this is done by placing the response into the response multiple of the message and automatically naming it with a Subject, whose first letter is an "R" and whose second through 99th digits are numbers (e.g., R1233 points to and is a response to message number 1233). In MailMan Version 3.2 and later, users are not allowed to use this syntax for message titles, in order to avoid contradictions in the database. This was not true in MailMan Version 3.09 and earlier versions.

This error can be caused by a naming convention problem (last paragraph), a message that was purged without purging the associated responses, or of a message that was lost during a database degrade. Regardless of how it occurs, this is a tricky issue to resolve because a user may be in the middle of a response that is not yet filed.

A real message will usually have recipients [^XMB(3.9,XMZ,1...], and be pointed to from ^XMB(3.7,"M",XMZ,...

A real response will not have responses and will not have recipients.

The best way to resolve these errors is to figure out if the entry in the Message file is really a message. If not, change the name to something that the purge will recognize as other than a response and to let the XMAUTOPURGE handle them.

The worst problem that can arise as a result of these errors is ineffective use of disk space.

Appendix VI -- Fine Tuning MailMan

Capacity

MailMan impacts site disk space and CPU. Disk space is generally used for message storage and can be very extensive. The XMB globals should be placed with this in mind. CPU is used mostly for message transmissions. The kind of activity differs depending on the kind of site. Some sites transmit data to central data collectors. Others distribute software or transmit personal messages. The recommendation is that sites have at least two ports set aside for outgoing network mail traffic. One port should be used exclusively for transmissions to FOC-AUSTIN.VA.GOV. The others should be put into a HUNT Device so they may be shared by all the other domains. Transmitting messages across the network can be a very CPU intensive task and consideration should be taken to put the network mail activity onto a CPU that can handle this level of activity.

Background Filers

When MailMan is installed, there are two delivery queues and two processes that deliver all messages as a default. Delivery activity may be monitored (routine XMUT5). If the delivery queue(s) seem to get clogged up and mail deliveries take a long time, it may be time to consider increasing the number of queues used for local mail deliveries. This is done by changing fields in the Kernel SiteParameters (241 & 242). This may be done dynamically and the filers will adjust themselves to the new parameters without the system being stopped (this may take a while). You may monitor the background filer activity with XMUT5.

Mapped Routines

Recommendations for Routine Mapping is covered in the Implementation and Maintenance section of this manual. Since each system is different, these are some hints for getting a set of mapped routines that more closely match a sites needs.

- Run a process that reports on system activity if possible and use this report as a guide. Make sure you run it over a long enough time period to get a representative sample.
- If you know that you have a lot of network activity try mapping more XMC*, XML*, XMR*, and XMS* routines. If you are running TCP/IP MailMan the most important network mail routines to map are XMLTCP and XMRTCP.
- If you have a lot of message and response deliveries, map XMD*.
- If you have a lot of applications that call MailMan, map XMB*, XMD*, and XMG*.

Appendix VII-- MailLink Program

Overview

The Remote User Directory file (#4.2997) contains a list of names and addresses of remote users. Input to this file is originated from a Noava or a Wang e-mail system file. Wang e-mail consists of most VA Central Office users, VBA users and NCS field station users. The Noava e-mail system is UNIPLEX. UNIPLEX is a UNIX server-based e-mail system and currently has approximately 1400 users in VACO.

When the Noava or Wang e-mail directories have updates, the new updated file is sent to FORUM system users. Upon receiving the updated file, the MailLink program is then invoked to convert the Noava/Wang directory into the Remote User Directory file.

The steps for setting up the system to convert the Noava/Wang directory and update the Remote User Directory file are:

- **MUMPS**

Use the following information to set up Host File Server entries in the Device file (#3.5) .

```
NAME:  HFS-NOAVA-DIR
ASK HOST FILE:  NO
MARGIN WIDTH:  0
PAGE LENGTH:   99999
SUBTYPE:  C-OTHER
FORCED QUEUING:  NO
```

```
      $I:  NOAVA.DIRECTORY
ASK HSF I/O OPERATION:  NO
      FORM FEED:  #
BACK SPACE:  $C(8)
      TYPE:  HOST FILE SERVER
```

```
NAME:  HFS-WANG-DIR
ASK HOST FILE:  NO
MARGIN WIDTH:  0
PAGE LENGTH:   99999
SUBTYPE:  C-OTHER
FORCED QUEUING:  NO
```

```
      $I:  WANG.DIRECTORY
ASK HFS I/O OPERATION:  NO
      FORM FEED:  #
BACK SPACE:  $C(8)
      TYPE:  HOST FILE SERVER
```

• Start the Remote MailLink Program

```
Setting up programmer environment
Terminal Type set to:  C-VT100
Select OPTION NAME:  XMMGR-DIRECTORY-MAIN    remote MailLink Directory
Menu

Select Remote MailLink Directory Menu Option:  ?

Enter/Edit Directory Request Flags by Group
Group Mail Directory Request
List Mail Directory Request Flags by Group
Load Remote VACO (Wang/Noava) Directory
Remote Directory from all Domain
Request Mail Directory from a Single Domain Server

Enter ?? for more options, ??? for brief descriptions,
?OPTION for help text.

Select Remote MailLink Directory Menu Option:  LOAD Remote VACO
(Wang/Noava) Directory

You are about to load a file containing a list of names and addresses into
you Remote User Directory (file #4.2997).  This file originated either from
a Noava System or a Wang System.  Choose the correct file.  We will check
it some for format.

Enter either HFS-WANG-DIR or HFS-NOAVA-DIR:  HFS-NOAVA-DIR//<RET>

Do you want your job queued?  (Answer YES or NO)  NO//<RET>

Before the update occurs entries older than 90 days in the directory are
deleted if they were automatically filed by this procedure.  Manually
entered entries are deleted if they haven't been used for at least 2 years.

Users are informed that an update is occurring if they are using MailLink
Help Options, but are allowed to continue.

Are you sure you want to do this (Answer 'YES/NO'):  NO//Y

Answer 'YES' if you mean "YES".  All other responses mean 'NO'.
The first file to be processed is for the KERN7$:[XMUSER]NOAVA.DIRECTORY.
Enter '^' to skip this portion of the process.

The following string was read from the line of
KERN7$:[XMUSER]NOAVA.DIRECTORY

Is this correct  ?  NO//  Y
Killing off old AUTOMATIC entries for this code (1B).
. . . . .
Starting load
. . . . .
Task Complete  . . . . .

Select Remote MailLink Directory Menu Option:  <RET>
```

- **The Remote User Directory is now updated and ready for mail access. The following is a captured session of how to obtain remote user information via user's location, mail code, or last name at MailMan's "Send mail to:" prompt.**

Example:

```

Send mail to:  ?
Enter the name(s) of the recipient(s) of this message in any of the
following formats:

Lastname,first                for a user at this site
LASTNAME,FIRST@REMOTE-SITE    for a user at another site
G.<GROUP-NAME>                 for a group of users

Prefix any user address with;      I:   to send Information Only
                                   C:   to send Carbon Copy

PLEASE ENTER '??' FOR DETAILED HELP

Want user information? NO//<RET>
Want Mail Group information? NO//<RET>
Want Domain information? NO//<RET>

```

This example shows that a "YES" answer here allows you to be prompted to enter the remote user's location.

```

Want MailLink Help? NO//Y

Enter LASTNAME, Mail Code or part of LOCATION (one word only):VBA
1  VBA  LYST
2  VBA  ARRON GREGORY          VBA DETROIT
3  VBA  ABAD-SANCHEZ          GLADYS          VBA SAN JUAN
4  VBA  ABAT  ZENAIDA C.GENY   VBA MANILLA
5  VBA  ABATE DONALD          VBA CLEVELAND
6  VBA  ABATE GINA            VBA TECHWORLD
TYPE '^', TO STOP, OR
CHOOSE 1-6:4
LAST NAME:  ABAT      FIRST NAME:  ZENAIDA
REST OF NAME:  C.ZENY      MAIL CODE:  055A
EXTENDED MAIL CODE:  SECT CHIEF AUTH  LOCATION:  VBA MANILLA
NETWORK ADDRESS:  ZENAIDA.C.ZENY.ABAT@VACOWMAIL.VA.GOV
DATE ENTERED:55752  DATE LAST USED:  AUG 1991

Want MailLink Help ? NO//Y

```

This example shows only the mail code being entered for a remote user.

```
Enter LASTNAME, Mail Code or part of LOCATION (one word only):05
1  055A ALLEN DEBORAH           Y      VACO
2  05A2AN      BAKER FAITH      A      VACO
CHOOSE 1-2:      1
LAST NAME:      ALLEN           FIRST NAME:  DEBORAH
REST OF NAME:   Y              MAIL CODE:   055A
EXTENDED MAIL CODE: 055A LOCATION:  VACO
NETWORK ADDRESS:  DEBORAH.Y.ALLEN@VACOWMAIL.VA.GOV
DATE ENTERED:55752      DATE LAST USED:  AUG 1991

Want MailLink Help ?  NO//Y
```

This example displays using the user's last name.

```
Enter LASTNAME, Mail Code or part of LOCATION (one word only):ABATE
1  ABATE DONALD      VBA CLEVELAND
2  ABATE GINA  VBA TECHWORLD
CHOOSE 1-2:      2
LAST NAME:      ABATE   FIRST NAME:  GINA
MAIL CODE:      20M21D  EXTENDED MAIL CODE:  20M21D
LOCATION:      VBA TECHWORLD
NETWORK ADDRESS:  GINA.ABATE@VACOWMAIL.VA.GOV
DATE ENTERED:55752  DATE LAST USED:  AUG 1991
```

```
Want MailLink Help?  NO//<RET>
```

```
Send mail to:  ABATE
1  ABATE DONALD      VBA CLEVELAND
2  ABATE GINA        VBA TECHWORLD
CHOOSE 1-2:  1      via VACOWMAIL.VA.GOV (Queued)
And send to:  ..<RET>
Mail forwarded
```

```
Select MESSAGE Action:  IGNORE (in IN basket)// <RET>
```


Appendix VIII-- MultiMedia MailMan

Introduction

MailMan V. 7.1 only exports MailMan options, routines, and files that allow it to interface with the Imaging Software package. MailMan does NOT export the Imaging package. Therefore, do not attempt to use the Imaging features in MailMan unless your facility has fully implemented the Imaging software.

Historical Background

An experiment was tried to see if we could deliver a text message and point it at entries in the Imaging package. It worked! We used a PC running FTP, connected to the Novell File Server.

We sent a mail message across the network using the normal channel. We added two new Message Protocol Data Units (MPDUs) to the normal set. In the first MPDU the sender indicated to the receiver that there was a Binary Large Object (BLOB). In the second MPDU the receiver indicated acceptance of the BLOB and gave directions on how to deliver the BLOB. The BLOB was delivered via a separate, background process that accessed the BLOB from the Novell File Server via an FTP get transaction, then did an FTP put transaction to send the file to the remote VAX.

This was successful but there were a couple of problems with it. The first problem was that the PC-FTP software would frequently get hung up and require manual intervention before it would work properly again. A user would have to reset or reboot the PC from its console. Another problem has been that the process forked off on the VAX to deliver the BLOBs in background never "saw" an error occur, especially with the initial FTP get transaction. The solution to this problem had to be tested.

We then established our first alpha test site for MultiMedia Mail and had consistent problems with this set up. We investigated the alternative of using some feature of the Novell software instead of using FTP to get files from the Novell file server. NFS quickly came up and seemed to have the right mix of features.

Analysis of Requirements

Ultimately, the process needs to do one thing. It needs to take a file on one system and send it to another system. The file's location should be transparent to the process. The process we are currently using was used because we had it and it worked under the limited circumstances.

The idea of having to FTP to a system that is on our Local Area Network (LAN) means that the process becomes more complex from the standpoint of both software and management. Both machines must be configured to be able to contact each other. The actual files must be moved twice, first from the file server on the LAN into the VAX, then they must be FTP'd again to the remote system. Another step is also required; the deleting of the file from the local VAX's temporary storage location where it was stored after the FTP "get" to the Novell server.

The idea that attracted the most attention was the idea of using NFS. This was attractive for a number of reasons. There is a high degree of probability that NFS will be running at all PC sites and is not a high extra cost additional capability for Novell LANs. It is a solution that will be workable at all DHCP sites, VAXs and PCs. The plan is to acquire TCP/IP capability for 486 sites, which will probably be in the form of a TISC box running Ultrix. NFS is something of an industry standard. For the VAX systems, it offers the ability to access disks that are actually located on Novell servers transparently (as though they are actually on disks mounted on the VAX itself). Compare the scenarios below with the description of how things worked with the prototype:

This part is the same.

- We sent a mail message across the network using normal channels. To the normal set of MPDUs we added new ones. In the first MPDU, the sender indicated to the receiver that there was a BLOB. In the second MPDU, the receiver indicated acceptance of the BLOB and gave directions on how to deliver the BLOB.

This part is much simpler...about 60% less work (only one FTP and no files deleted).

- The BLOB was delivered via a separate, background process that does an FTP put transaction to send the file to a VAX at the remote location the message was sent to.

In addition to the elegance of the second solution compared to the first, and the status of NFS as an industry standard, there is the additional feature that the second solution is possible on the configurations being tested for the 486 sites, so that they can have TCP/IP capability. It is also better because it offers some compatibility to the NOAVA systems that may be put in sites, as NOAVA Gateways systems running NFS.

It is also attractive because it may allow file sharing from the VAX. For instance, development and support staff could store only current versions of DHCP software on a Juke box on the Novell server.

Overview

When using an imaging workstation, a user can view images that are linked to a mail message on a second screen. This works using standard calls to the Application Programmer Interface (API) of the Imaging package. Images are brought off of a file server on the Local Area Network (LAN) via Ethernet and displayed. Network transmissions of messages are performed from a platform that has both CFS capabilities and TCP/IP. Images are delivered off of the file server that is on the LAN into a directory that is mounted (via NFS) onto this platform, again by a call to the Imaging Application Programmer Interface (API). The hardware relationships are:

- Each is DPPd to the same MUMPS database. At least one directory that is known on the network platform (if it is a VAX) as NFA0: is mounted via NFS client software onto it from the file server, which is running NFS server software. This directory appears as a logical device. It has two subdirectories that MailMan uses during network transmissions. The first is called NFA0:[export.mail] and is where the Imaging API places files that MailMan has indicated via a call that it needs to send to a remote system. The second, called NFA0:[import.mail], is where files are received.
- The network transmission works by sending a message first. During the exchange of message protocol data units, information is exchanged about the Binary Large Object (BLOB) that is going to be sent via FTP. The receiver indicates the IP address to send the message to and the directory to put it in. The sender then constructs a series of commands that will access the FTP software running on that machine and stores it in a file that can be executed. A background process in MUMPS (XMRTCP), polls this file every few seconds and when it sees an entry, it makes a request to the imaging API to move the appropriate image into the export directory. When the image is in the export directory, the aforementioned file is executed and the image is FTP'd to the receiver of the mail message. The process that starts XMRTCP must have the correct UIC and access privileges.

There are two basic parts to a message as defined in the TCP/IP SMTP standard; the header information about the message, which includes the addresses of the recipients, its subject, date originated, and other qualities of the message; and the body of the message. Originally, the body of the message had only one part, the text. However, as electronic mail evolved, the need to make the body of the message more flexible was realized. The body of a message may contain more than one body part. MultiMedia Electronic Mail has the ability to include body parts other than text in a message. Any bit-mapped data part can exist in the message body. It is referred to as a Binary Large Object (BLOB).

Non-textual BLOBs in Messages

BLOBs exist in messages as pointers to the Image file (#2005). In order to attach a BLOB to a message, it must first exist in this file. Each entry in the Image file must have the data necessary for it to be found and used by the system. MailMan uses calls to the DHCP Imaging package in order to manipulate these non-textual body parts. Entries in the Imaging file are looked-up, displayed, and moved to a disk drive where they can be transmitted using FTP by calls to the DHCP Imaging package.

As implemented in MailMan Version 7.1, BLOBs may be attached to a message. To do this, an entry is found or created in the imaging database for the BLOB part of the message body. The context of the entry includes the software that can be used to display it. It is therefore very object oriented in the classical sense. The imaging database is being tested concurrently with MailMan. It may also be distributed, but agreements have not yet been established. These BLOBs are stored on any file server that DOS talks with on the local area network.

A message with a BLOB attachment may be sent to any user but the BLOB parts may not be read unless the user is at the correct terminal. He is then informed of the viewable BLOB part and is told to read it from a terminal that he can display them on. The standard terminal for imaging, which is also the one required in this case, consists of two PCs. One runs MSM (displaying the message header and text). The other is a display device off the network with a high resolution VHF monitor.

A message with a BLOB is created using a special option that is locked with a key that will be assigned only to some users. The user sends the message as if he were using the normal Send option of MailMan. However, he is first queried for BLOBs, which must already exist in the appropriate imaging database file. He then finishes the message by adding text to it, addressing it, and transmitting it.

Sending and Receiving BLOBs Across a Network

When a network capability is added, complexity increases. Images have been transmitted across a standard X.25 network. They usually take from 7 to 15 minutes to be sent this way. Adding a very high speed channel that is capable of transmitting images in less than a minute makes the system really impressive. In both cases, it is necessary to make the system as efficient as possible. Our second pass at making this work included a Network File System (NFS) capability. This allowed us to perform only one FTP to get an image from Site A to Site B. The first scenario tested required at least two, one to get the file off of the LAN and a second to put the file onto the remote machine. NFS uses half the time it took to deliver images previously.

During the sending process of a message, a system check is made to see if it already exists and if so, the message is not retransmitted. The same occurs for BLOBs. If a BLOB is already on file, it is not retransmitted. The transmission of the BLOB takes place separately from the message header and the text. If a user tries to read the message before the BLOB(s) has been attached to it, he is told that this is the case and that he should re-read it later. At an imaging workstation the user is asked which BLOB to view.

MailMan Version 7.1 is also able to send a file, whether image, sound, or graphic, without attaching it to a mail message. This is done using the TCP/IP service called FTP. As long as the file is accessible to MailMan, the user will be able to send it to a particular IP address.

Requirements

The following must be running for MultiMedia MailMan to function properly:

For Local Mail Reading

- Imaging must be installed on both the PC workstation and the main machine.
- The Novell server must be operational.
- The C-IMPC terminal type must be associated with the PC workstation at sign-on.
- MailMan must be installed on both the PC workstation and the mail machine.
- Globals must be translated properly from the mail machine to the PC workstation.
- DDP must be running between the PC workstation and the main machine.

For Network Transmissions (Sending and Receiving)

- The NFS drive must be mounted.
- TCP/IP must be running on the correct node.
- MailMan must be enabled for TCP/IP sending and receiving.
- The destination must be "reachable" by TCP/IP for both mail delivery and FTP.
- Secondary network protocol stack (e.g., Frame Relay) must be operational, if used.
- The MUMPS routine XMRTCP must be running on the TCP/IP node.
- Imaging must be moving images onto the export/mail directory of the NFS drive.
- The domain file of the remote domain must be set up for TCP/IP transmissions.

Appendix VIII --MultiMedia MailMan Requirements

- **The Kernel Site Parameters of the receiving site must have the correct data in the following fields.**
 - 1) FTP Address for BLOB Receive field**
 - 2) FTP Password**
 - 3) FTP Username**
 - 4) FTP Receive Network Location (free text pointer to Network Location file) field**
 - 5) FTP Receive Directory**

MultiMedia MailMan --Getting Started

To use MultiMedia MailMan, you must install the DHCP Imaging System.

MSM Sites

*****Very Important for MSM Sites*****

This has been prepared to help tune the performance of the SWP protocol. It is particularly important information for sites running on configurations of 486s and similar hardware that have small (or perhaps non-existent) buffers for IO on the ports that are asynchronous in nature.

Problems using SWP protocol were almost non-existent while DHCP sites were running exclusively on VAXs and PDP-11s. These machines were configured to have rather large IO buffers (1k bytes or more). When transmitting data across the network, additional buffering occurs because of the holding of data at nodes between hops.

When sites began installing replacement systems for the PDP-11s, (which were 486s) many sites began to complain that SWP (which had been their most effective protocol for delivering messages) was not working properly and that in many cases they had to start using the much slower protocol 1SCP.

The problem did not occur at all sites and so a search was begun for the difference. Hardware and software configurations were all investigated and no differences could be found that would explain why some sites functioned properly using SWP for message delivery and some didn't.

It was found that by changing the name of the Terminal Type used in the definition of outgoing network mail ports that sites suddenly became successful using SWP for message transmissions. Research found that there was code in the SWP protocol programs that made the protocol do something different when the Terminal Type was not called "C-MINIXxx". It was discovered that the code limited the number of lines in a message that could be sent before requiring an acknowledgment from the receiver (Window Size). This was code that allowed SWP to be used for transmissions across lines that would preclude much of the buffering that is implied by the use of the WAN (now called IDCU). It is presumed that sites that changed the name of the Terminal Type for their outgoing network mail ports to a name that did not begin with "C-MINI" were the sites that did not have problems.

Note: Please contact the Washington ISC if any reports to the contrary are available.

Under testing circumstances, the following resolved the problem at five MSM sites. These sites had not been able to use the SWP protocol successfully before the

change. After the change, these sites were transmitting data using SWP at rates in excess of 100 cps (often higher than 200 cps).

Recommended Change

Change the name of the Terminal Type that defines the devices used to transmit network mail to:

C-MSM-MINIOUT	(for MSM Sites)
C-xxx-MINIOUT	(for other sites where xxx is descriptive of the MUMPS implementation that is being run)

The OPEN execute for the Terminal Type should include:

X ^%ZOSF("EOFF")

The CLOSE execute for the Terminal Type should include:

X ^%ZOSF("EON")

MultiMedia MailMan -- Set-up

The Configuration

MailMan running across TCP/IP channels as a peer to other SMTP mail systems has been described in an article presented by the author in the 1993 M Technology Association meeting in Washington D.C. and published in the proceedings to that meeting. An addendum to that article that describes how to obtain the software on VAX hardware is available from the author. That addendum has been used by both the VA and the Smithsonian Institute to establish TCP/IP mail connectivity to the Internet.

MailMan must send and receive mail on a TCP/IP channel in order to operate in MultiMedia mode.

After the directory and subdirectory are established, entries should be made in the Network Location file for the Import directory. This will be where the Image file will be first (before it is moved to a permanent location). The Imaging API needs to know this because the objects in the Image file (#2005) will point at this Network Location file. If it is not properly set up, the BLOBs will not be displayed.

Here are examples of how to set up both network locations in File #2005.2. The physical reference should be the name of the Novell disk that is mounted via NFS on the VAX, as it would be referenced from DOS as U:IMPORT\MAIL. This may vary from site to site.

```
NETWORK LOCATION:    IMPORTMAIL  PHYSICAL REFERENCE: U:\IMPORT\MAIL
TOTAL SPACE IN KB:   9999999      SPACE USED IN KB:    1111111
FREE SPACE IN KB:    8888888      OPERATIONAL STATUS:  ONLINE
STORAGE TYPE:       MAGNETIC
```

```
NETWORK LOCATION:    EXPORTMAIL  PHYSICAL REFERENCE: U:\EXPORT\MAIL
TOTAL SPACE IN KB:   9999999      SPACE USED IN KB:    1111111
FREE SPACE IN KB:    8888888      OPERATIONAL STATUS:  ONLINE
STORAGE TYPE:       MAGNETIC
```

Site Parameters

The data used by the sender and receiver must be recorded in the Kernel Site Parameters file.

FTP Receive Directory

This field stores the information passed from the receiver to the sender about where to put the file that is coming. The receiver can dynamically control where the images will be received.

FTP Address for BLOB Receive

This field contains an IP address so the receiver can dynamically control the machine that the sender will connect to when it sends the image.

FTP Receive Network Location

This field contains the name of the entry in the Network Location file that corresponds to the FTP Receive Directory field so that the entry that is created in the Image file to represent the BLOB can be found and displayed.

FTP Username

This is a string that represents the username that the FTP process uses in order to log into this system.

FTP Password

This is the string that represents the login that the sender will have to use in order to log into the system via FTP. The receiver can change security usernames and passwords at will.

Image Workstation Software Installation

- You will need to use the SYSGEN option to set up the translation tables correctly. The XMULTI configuration is a good starting point. You need to translate the following globals to your DHCP MUMPS server (VAX):

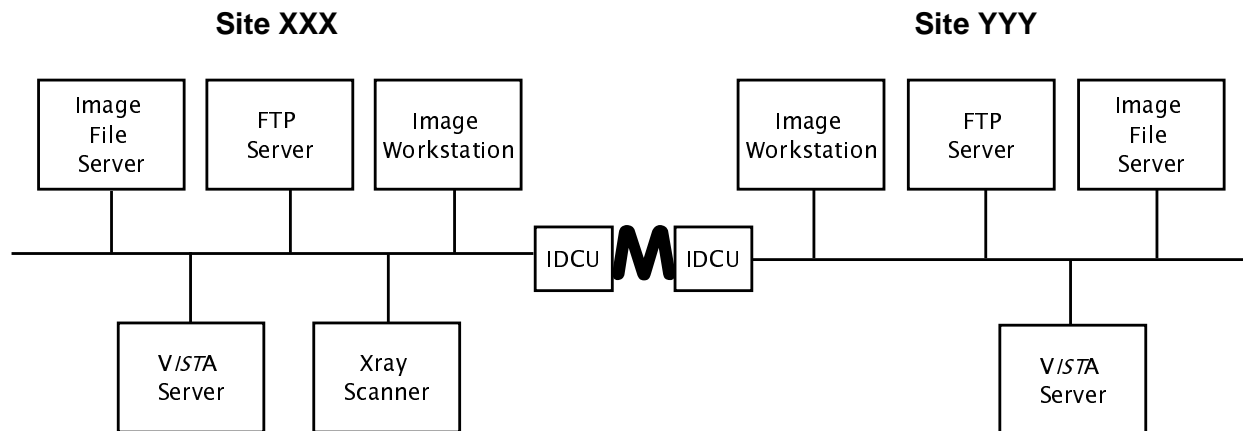
X* X* D* M* %ZIS* R*

- You will need to edit the translation tables to change the "translation to" for data and locks to your DHCP system. Your workstation's volume set name is "ITA", so you will not need to change the "translation from".

Note: The Radiology package must be installed on your VAX to store the scanned images.

- With the globals translated, you will need to edit your Kernel Site Parameters to include ITA as a volume set name. You will need to add ITA to the Device file. You will also need to have a device type IMP and sub type C-IMPC. These may be taken care of in the MailMan inits.
- You will need to run MAGINIT to initialize the imaging globals on the server.
- We will have to send you the Radiology inits for imaging separately. This is needed to run the scanner, not to test MultiMedia MailMan.
- You must edit the Kernel Site Parameters, MailMan Receive DISK/VOL field to contain the driver letter used by your FTP server to address your Novell server, for example, U:.
- You must edit the Domain file FTP BLOB Directory field to contain the directory name where images will be stored on your Novell file server, for example, IMAGE. You must be sure that this directory exists and is accessible (READ, WRITE, MODIFY, DELETE, etc.) by the FTP server.
- You must edit the Domain file FTP BLOB IP ADDRESS field to contain the IP address of your FTP server. Format is xx.x.x.xx
- You may have to set up an option for MultiMedia Message Send under the XMUSER menu, ITEM: XMBLOB.
- You will need to set the Imaging Site Parameters Name field to BIRMISC, and the Initial Location to A.
- Imaging Workstation MUMPS software can be started with DEMO2.BAT.

- You will need to edit the Network Location file. In the .01 field, you will need the logical name of the Novell directory containing Image files. We usually use MAG1, MAG2, etc. You will need one entry for each drive and directory. The Physical Location field contains the full PATH to the directory and ends with a slash, For example U:\IMAGE\.
- You will need to edit the Network Write Location file to point to the above Network Location file.



How to Install the Network File System (NFS)

In order for files from the Novell File Server to be sent from the CPU with the FTP service across the IDCU, a directory is mounted onto that CPU using NFS. After it is NFS mounted, the Novell directory is seen as though it is on this CPU.

Instructions for mounting an NFS drive differ from implementation to implementation. However, the set-up below was used for a VAX.

On the **file server**, a directory must be created that will be NFS mounted onto the FTP capable host. This directory should have the following subdirectories. The U drive is used as an example:

```
u:\import\mail
u:\export\mail
```

On the **FTP capable node of the host**, where XMRTCP will be started, the following needs to be completed:

- A file needs to be set up that maps VMS users on the foreign system:

```
NFS GENERIC.UIDS FILE FOR nnnVA mm/dd/yy initials
```

- Define symbolic names for UIDs and GIDs on the remote server:

dhcp symbolic for user on the remote server
irm symbolic for group on the remote server

- Define UIDs and GIDs for the VMS UICs and account names.

Each VMS account may be assigned a single UIC and up to 10 GIDs. DHCP and DSMIMAGE are VMS usernames being mapped to the symbolic UID above.

Warning! Be careful! These may be case sensitive.

- An NFS drive must be mounted. VMS commands to mount the NFS file.

Note: ***Some parameters are case sensitive, such as the directory on the remote disk. All lower case is more likely to work than all upper case.***

In the example below, "IMAGES" is a logical name assigned to the UIDs file (IMAGES.UIDS) and to the TCP/IP address (nnn.nnn.nnn.mmm). If you use the generic UIDS file, substitute the real IP address for IMAGES.

```
SET PROC/PRIV=ALL
SET PROC/PRIV=NOBYPASS
SET COMMAND twg$tcp:[nfscclient]*.cld
NFSMOUNT NFA0:  IMAGES  "/sys/imagenfs"
```

Note: Using NFS on a VAX means that files are not allowed to be written on top of an already existing file, and so there won't be version number problems with files saved on the NFS drive. If the file already existed in DOS, NFS would try to rename it. Therefore, before installing the new routines, delete the file that is to be replaced to prevent naming problems.

Set up Example for VMS Users

The example displays proper set up for VMS users so that a remote site can send Images/BLOBs by FTP to your site. To properly complete this set-up for VMS Users, username and password must be entered into the KSP file (#4.3).

Note: UIC and Default values must be the same as DSMMGR where [61,n] is the case. Privileges are very restricted. There are no access restrictions from the remote FTP.

```
Username:      MAILIMAGE   Owner:
Account:      UIC:  [61,4] ([MAILIMAGE])
CLI:         DCL  TABLES:      DCLTABLES
Default:     KERN7$:[KERN7SUR]
LGICMD:      MAILIMAGE_LOGIN.COM
Flags:       DisCtlY DisWelcome DisMail DisReport
Primary days: Mon Tue Wed Thu Fri
Secondary days:      Sat Sun
No access restrictions
Expiration:    (none)      Pwdminimum:  6      Login Fails:      3
Pwdlifetime:   (none)      Pwchange:      (pre-expired)
Last Login:    27-APR-1993 15:49 (non-interactive)
Maxjobs: 0      Fillm:      150  BYTLM:      40960
Maxaccjobs:0    Shrfillm:    0      Pbytlm:      0
Maxdetach:0     BIOlm:      18      JTquota:    1024
Prclm:  2       DIOlm:      18      WSdef:      600
Prio:  4        ASTlm:      300     WSquo:      1000
Queprio: 0      TQElm:      10      WSextent:   1500
CPU:           (none)
Authorized Priviledges:
      GRPNAM GROUP TMPMBX NETMBX
Default Priviledges:
      GRPNAM GROUP TMPMBX NETMBX
```


Appendix IX -- The MailMan Script Processor

Overview

Generalized Device Control and Communication Utility (The MailMan Script Processor)

There are times when it is desirable or necessary for processes to talk to devices. Sometimes these devices have software running on them and sometimes they do not.

Sometimes software needs to make decisions on the fly about what processes to perform, and in what order. "Wouldn't it be nice," you might hear someone say, "to have a user state a series of actions to take and to have them acted upon in a controlled fashion?"

MailMan provides a utility called the MailMan Script Processor that can accomplish these chores. It allows for events to be sensed and actions to take place. Also, for the first time there is a way for programmers to define their own scripts and to have them played out. This is an opportunity to define a series of actions that make up a process and to then invoke them as the opportunity offers itself.

How to Invoke the Script Processor

Set up the following variables in order to process a script:

<u>Variable</u>	<u>Meaning</u>
XMDIC	The root of the array (of file) that the script is in
XMSCR	Index number to the script to be played
XMSCRN	Name (free-text) of the script to be played

Example Call

The alert below is set up only if the lab device being examined has data for the user. It is queried by sending a string of 5 question marks and a checksum, and responds with either NAK (no data to transmit) or ACK (Yes, I have data). The device has been opened by the process before the code below. The script has been set up as one of many in advance.

There is also a script that similarly is invoked to pull in the data when the user is ready for it.

```
;The script is set up in a FileMan compatible word processing field
;and we have moved it into a temporary global array for this event
S XMDIC="^TMP(" "NAMESPACE" ", $J, "

;The particular index is entry number 22
;The name of the script is "Lab data is ready!"
S XMSCR=22,XMSCRN="Lab data is ready!"

;The script processor is called
;An alert is sent to the user if the lab data is ready
;ZZGET-LABDATA is an option that invokes the script that receives
;    the data into the user's PC database.

D SCRIPT^XMC1 I ER W:'$D(ZTQUEUED) !!,*7,"Lab data is not ready!",!!
Q
```

The device takes a while to wake-up after it is opened. Therefore, the first line of the script forces a 20 second wait.

The second line of the script is the request for the data.

The third line looks for the acknowledgment. If no acknowledgment comes within 15 seconds, it is assumed that the script is done and the script processor will quit with ER=1.

The fourth through seventh lines will then invoke the appropriate alert.

The script looks like this:

```
^TMP("NMSP", $J, 22, 1, 0) = W 20
^TMP("NMSP", $J, 22, 2, 0) = S "?????"_NMSPSUM
^TMP("NMSP", $J, 22, 3, 0) = L |ACK|:15
^TMP("NMSP", $J, 22, 4, 0) = X S XQA(DUZ)=""
^TMP("NMSP", $J, 22, 5, 0) = X S XQAMSG="LAB data is ready!"
^TMP("NMSP", $J, 22, 6, 0) = X S XQAOPT="ZZGET-LABDATA"
^TMP("NMSP", $J, 22, 7, 0) = X D SETUP^XQALERT
```

Mini out Subroutine

Transmission scripts are lists of script commands that are executed by the script processor for Network Mail transmissions in order when they are invoked. The command in a Script that invokes a transmission script is the CALL. Therefore "C KERNEL" invokes a script that interfaces with the SMTP (Simple Mail Transfer Protocol) process using the SCP (Simple Communications Protocol). Transmission scripts are used most often to invoke a portion of a longer script that is used in many different domains.

The XMSUBEDIT option allows editing of the transmission script subroutine.

```

1  W  1
2  S
3  Look UserID?
4  ISCDEV
5  L  PASSWORD
6  S  PROGRAM
7  L  DESTINATION
8  X  W  XMHOST,*13
9  LOOK |CONNECTED| LINE |1DISCON |
0  S

```


Appendix X -- MailMan Distribution List

MailMan's Distribution List file has entries that consist of names. Each name is associated with one or more domains. When a Distribution List is entered into a mail group, MailMan will deliver the message to all the entries it has linked to it. A Distribution List is interpreted as a name to which the message will be delivered, at each of the associated domains in the established list. Therefore, a Distribution List whose name is G.SUPPORT and whose associated domains are FORUM.VA.GOV, ALTOONA.VA.GOV and ISC-SF.VA.GOV will be sent (in addition to all other entities attached to the mail group) to:

G.SUPPORT@FORUM.VA.GOV
G.SUPPORT@ALTOONA.VA.GOV
G.SUPPORT@ISC-SF.VA.GOV

Mail Groups

A mail group allows you to send messages to a group of recipients without having to specify them individually by name. Whenever mail is repeatedly sent to the same list of recipients, users can save time by putting them in mail groups.

Users can set up a new mail group or add members to an existing group using the Mail Group Edit option, found under the Manage MailMan menu. The user will be prompted for the following:

<u>Prompt</u>	<u>Usage</u>
Name and Description	Identifies this newly set up mail group
Member	Member that will receive all mail addressed to the established mail group. Members may also be local and remote users, other mail groups or an established distribution list
Type	Mail groups can be public, private or open.
Organizer	The organizer of a mail group is the user who set up the group.

Members of Mail Groups

<u>Type</u>	<u>Usage</u>
Local	Members that are individuals that use the local mail system
Member Group	<p>A mail group may also be established as a member of other mail groups. More than one mail group may concurrently be members of the same mail group.</p> <p><i>Warning!</i> You can create an infinite loop by making a mail group a member of a mail group, if the first mail group is also a member of the second.</p>
Distribution List	Distribution Lists may be set up through the use of FileMan. A distribution List has a name and a list of domains. If a Distribution List is a member of a mail group, and more than one may be, then the expansion of it will cause the message to be sent to the Distribution List Name at each of the domains in the list.
Remote	Members that are in none of the other categories.

Note: Private Mail Groups may not contain Distribution Lists.

The following example shows how to use FileMan to set up and edit a MailMan Distribution List and each domain within the list. It further displays the establishment and editing of mail groups, as well as adding new members using the Edit Distribution List option under the Manage MailMan menu. This display shows actual system dialogue that may be used as a guide when establishing your own.

Creating a Distribution List

TheGroup/Distribution Management option is used for setting up a MailMan Distribution List.

```
Select Manage MailMan Option: Group/Distribution Management

Select DISTRIBUTION LIST NAME: PATCH DIST
  ARE YOU ADDING 'PATCH DIST' AS A NEW DISTRIBUTION LIST (THE 4TH)? Y
(YES)

Select DOMAIN: GOLD.BIG-SITE.VA.GOV
  ARE YOU ADDING 'GOLD.BIG-SITE.VA.GOV' AS A NEW DOMAIN (THE 1ST FOR THIS
DISTRIBUTION LIST)? Y (YES)

Select DOMAIN: BIG-SITE.VA.GOV
  ARE YOU ADDING 'FORUM.VA.GOV' AS A NEW DOMAIN (THE 3RD FOR THIS
DISTRIBUTION LIST)? Y (YES)
Select DOMAIN: DEMO.VA.GOV
  ARE YOU ADDING 'DEMO.BIG-SITE.VA.GOV' AS A NEW DOMAIN (THE 4TH FOR THIS
DISTRIBUTION LIST)? Y (YES)

Select DOMAIN:<RET>

Select DISTRIBUTION LIST NAME:<RET>
```

The Distribution List may be edited using the Edit Distribution List option.

```
Select Manage MailMan Option: Edit Distribution List

Select DISTRIBUTION LIST NAME:      PATCH DIST
NAME: PATCH DIST// <RET>

Select DOMAIN: DEMO.BIG-SITE.VA.GOV// FORT HOWARD, MD FORT-
HOWARD.VA.GOV
  ARE YOU ADDING 'FORT-HOWARD.VA.GOV' AS A NEW DOMAIN (THE 5TH FOR THIS
DISTRIBUTION LIST)? Y (YES)
Select DOMAIN: <RET>

Select DISTRIBUTION LIST NAME: <RET>
```

The Mail Group Edit option allows you to enter or edit Mail Group members.

```
Select Manage Mailman Option: Mail Group edit

Select MAIL GROUP NAME: ISC2 DIST
  ARE YOU ADDING 'ISC2 DIST ' AS A NEW MAIL GROUP? Y (YES)
NAME: ISC2 DIST // <RET>
Select MEMBER: JONES,JOHN
  ARE YOU ADDING 'JONES,JOHN' AS A NEW MEM (THE 1ST FOR THIS MAIL GROUP)?
Y (YES)

Select MEMBER: AMES,AMY
  ARE YOU ADDING 'AMES,AMY' AS A NEW MEM (THE 2ND FOR THIS MAIL GROUP)? Y
(YES)

Select MEMBER: THOMAS,TOM
```

Appendix X --MailMan Distribution List

```
ARE YOU ADDING 'THOMAS,TOM' AS A NEW MEM (THE 3RD FOR THIS MAIL GROUP)?
Y (YES)

Select MEMBER: DANIELS,DANIEL
ARE YOU ADDING 'DANIELS,DANIEL Y' AS A NEW MEM (THE 4TH FOR THIS MAIL
GROUP)? Y (YES)

Select MEMBER:<RET>

DESCRIPTION:
  1>THIS GROUP IS TIED TO THE DISTRIBUTION LIST.
  2><RET>
EDIT Option:<RET>
TYPE: PU public
ORGANIZER: JONES,JOHN
Select AUTHORIZED SENDER: <RET>
ALLOW SELF ENROLLMENT?: NO<RET>
Select MEMBER GROUP NAME: <RET>

Select REMOTE MEMBERS: PETERSON,PETER@ALTOONA
ARE YOU ADDING 'PETERSON,PETER@ALTOONA' AS
A NEW MEMBERS - REMOTE (THE 1ST FOR THIS MAIL GROUP)? Y (YES)
Select REMOTE MEMBERS: <RET>

Select DISTRIBUTION LIST: PATCH DIST
ARE YOU ADDING 'PATCH DIST' AS A NEW DISTRIBUTION LIST (THE 1ST FOR THIS
MAIL GROUP)? Y (YES)

Select DISTRIBUTION LIST: <RET>
```

You are now ready to send a message.

```
Select MailMan Menu Option: S Send a Message
Subject: TEST FOR THE DIST LIST
Enter the text of the message
  1>THIS IS A TEST.
  2><RET>
EDIT Option: <RET>

Send mail to: JONES,JOHN// <RET>
Select basket to send to: IN// <RET>
Send mail to: G.ISC2 DIST 5 Local 1 Other Members 1 Distribution
Lists:
JONES,JOHN THOMAS,TOM AMES,AMY DANIELS,DANIEL PETERSON,PETER
Distribution List PATCH DIST
G.PATCH DIST@GOLD.BIG-SITE.VA.GOV
G.PATCH DIST@VER.GOLD.BIG-SITE.VA.GOV
G.PATCH DIST@FORUM.VA.GOV
G.PATCH DIST@DEMO.BIG-SITE.VA.GOV
G.PATCH DIST@FORT-HOWARD.VA.GOV
And send to: <RET>
Mail forwarded
Select MESSAGE Action: IGNORE (in IN basket)// Ignored
End of basket.
```


The Distribution List file has entries that consist of names. Each name is associated with one or more domains. These domains are concatenated as the above example shows to the Distribution List names to form addresses of remote recipients.

This is an actual print-out from FORUM of a Distribution List.

NAME	DOMAIN
IRM	ALTOONA.VA.GOV
	BALTIMORE.VA.GOV
	BECKLEY.VA.GOV
	BUTLER.VA.GOV
	CLARKSBURG.VA.GOV
	COATESVILLE.VA.GOV

Appendix X --MailMan Distribution List

Appendix XI -- MailMan Validation Numbers

MailMan's most recent security feature is the use of the Validation Number field of the Domain file. It is being used to make communications via Network Mail Transmissions more secure.

The Validation Number field is embedded with an initial value. To use this feature with a particular domain, proceed as follows:

Example: DomainA and DomainB agree on an input value in the Validation Number field of the Domain file (let's use 98765432 as the value). At DomainA, this value is forced into the Validation Number field of the Domain file at DomainB. Similarly at DomainB, the entry for DomainA is forced to contain the number 98765432 in the Validation Number field.

```
Your Site = Domain "A"      Other Site = Domain "B"

At Domain A      At Domain B
DOMAIN NAME:     DOMAINB      DOMAIN NAME:     DOMAINA
VALIDATION NUMBER: 98765432    VALIDATION NUMBER: 98765432
```

The field values must be coordinated to be entered at the same time. Otherwise, the values could cause either side to think a security violation has occurred.

Note: If either domain starts a transmission while only one site has entered a value in the Validation Number field of their Domain file, a security violation will occur.

On each transmission, the Validation Numbers are exchanged and checked. If they are synchronized, the transmission will continue. If they are different, the sender, the receiver, or both will trigger the XMVALBAD bulletin. This bulletin will be sent to the members of the mail group(s) associated with the transmission attempt.

Note: Please be sure to establish that the XMVALBAD bulletin is associated with a mail group and that the mail group has at least one active member.

Once validation numbers are checked and are synchronized, the receiver randomly generates a new validation number. This value is then passed to the sender. Both the sender and the receiver enter this new value into the Validation Number field of their respective Domain files.

Suppose DomainA receives a successful communication with a domain that has the correct validation number value, but isn't really DomainB. The Validation Number field will be different on the actual DomainB. They will no longer have synchronization of their Validation Number fields and will not be able to transmit or receive messages from each other. Management is notified immediately that

there has been a security violation. The sites will have to resynchronize the values in the Validation Number fields.

It is very unlikely that a validation number will be guessed, since they are eight digits in length and are constantly changing. It would take another mail system (specially contrived) to try and retry the connection.

***Note:* The only other way for security to be compromised would be for an insider to "steal" and immediately use the stolen code.**

Appendix XII -- Statistics in MailMan

MailMan Version 7.1 has the capability to record statistics that can help a systems manager to see how work is being done on his system and how good response time is for system users. There are statistics available for both local events and deliveries of Network Mail.

Local Statistics

Statistics are kept in half hour intervals on those events most important in an electronic mail system.

- Deliveries of messages and responses made
- Number of messages and responses that remain undelivered
- Average response time (measured as how long it takes to delete or terminate a message)
- The last message number assigned during the interval
- The longest time any item has been waiting to be delivered
- The number of lines of a message and response text displayed or printed in half-hour intervals

In order to have these statistics recorded in the Message Delivery Stats file (#4.2998), they are recorded by the option XMMGR-DELIVERY-STATS-COLL that you must schedule once and only once. It reschedules itself to run every 30 minutes.

Average response times are recorded by making use of the Kernel Response Time Logging functionality. Response Time Logging must be turned on either by editing the Kernel Site Parameters file (#4.3) or by running the XMMGR-RESPONSE-TIME-TOGGLER option of MailMan. This option turns on Response Time Logging and schedules a job 5 minutes later to turn off Response Time Logging. If you do not want to record everyone's response time constantly, running this option periodically (every half-hour or hour, for instance) will record response times for a random sample of users and is quite effective. In addition, the XMMGR-RESPONSE-TIME-COMPILER option must be run. It will compile the data from the %ZRTL global into half-hour intervals and place the results into File #4.2998.

All of this can be reported using the options listed under the Local Delivery Management submenu of the Manage MailMan menu. The options that contain the word "tabbed" in the title will create output that can be captured and used in an Excel spreadsheet.

Network Mail Statistics

VMS Systems

On VMS systems, the following routine may be used to count users for statistics. It must be converted into a VMS COM file first. See the following example:

```
S X="USERS.COM" O X UX
F I=0:0 S X=$T(ZZZ^XMUTCOM1+I) Q:I="" W X,!
C X
```

Displayed next is the actual routine.

```
>ZP
XMUTCOM1 ;(WASH ISC)/CAP-XMUSRCNT.COM / COUNT USERS ;12/4/93 11:48
;7.1T;MailMan-Test;Oct 05, 1993
ZZZ ;$!USERS.COM
;$! milt's special
;$ set noon
;$ ANS="N"
;$ pur/nolog leeuser.log
;$! del/nolog u1*.tmp.*,u2*.tmp.*
;$! say " Scanning VMS interactive users....."
;$ SH USER/INTER/full/OUTPUT=U1.TMP
;$! say " Scanning VMS batch users (ZSLOT) ....."
;$ SH USER/BATCH/full/OUTPUT=U2.TMP
;$ search/output=u11.tmp u1.tmp forum
;$ search/output=u22.tmp u2.tmp bf
;$ search/output=u222.tmp u22.tmp op_/match=nor
;$ APPEND U222.TMP U11.TMP
;$ cnt=0
;$ bfcnt=0
;$ open/read a U11.TMP
;$READ_LOOP: !read USERS.tmp and start extracting what we need
;$ read/end=eof/error=error a line
;$ if f$extract(0,1,ans) .nes. "" then goto next_step
;$! say line
;$ next_step:
;$ if f$extract(1,2,line) .eqs. "BF" then bfcnt=bfcnt+1
;$ cnt=cnt+1
;$ goto read_loop
;$ next_one:
;$EOF: !end of file
;$ close a
;$ set ver
;$ open/append a XMUSRCNT.sav
;$ vmscnt=cnt-bfcnt
;$ time_stamp=f$time()
;$ scnt=f$string(cnt)
```

```

;$ svmscnt=f$string(vmscnt)
;$ sbfcnt=f$string(bfcnt)
;$ usercnt="'scnt','sbfcnt','svmscnt','time_stamp'"
;$ write a "*****"
;$ write a time_stamp
;$ write a " VMS logins = 'VMSCNT'."
;$ write a " VMS Batch jobs running = 'bfcnt'."
;$ write a " TOTAL Interactive and Batch users = 'CNT'."
;$ write a 'usercnt'
;$ close a
;$ purge/nolog leeuser.sav
;$ delete/nolog U1*.TMP.*,U2*.TMP.*
;$ dsm/envir=mgrmail/data="'usercnt'" ENUSER^XMUT5Q
;$! submit/que=forum7_batch XMUSRCNT.COM
;$ set nover
;$ exit
;$ERROR:
;$ say "Error has occurred during processing."
;$ SAY " "
;$! goto eof
;$exit

```

>

Network Statistics

Network Mail statistics are much simpler. In the Message Statistics file (#4.2998), statistics are kept on a monthly basis. The data recorded there includes the number of characters, lines, and messages that have been sent and received.

Appendix XIII -- P-Message Device Set-up

This Appendix shows how to define devices that can be used to redirect reports and other outputs into mail messages instead of printers.

P-Message Definitions for the Workstation Environment Running MSM

In addition to the regular P_Message Device and Terminal Type that needs to be defined on the VAX for use by DHCP terminals, another set has to be defined for use by workstations running MSM.

Terminal Type: For Operating from a Workstation Running MSM or a VAX

```
NAME:      P-MESSAGE-HFS (MSM)          RIGHT MARGIN:      255
FORM FEED:  #                          PAGE LENGTH:       256
BACK SPACE: $C(8)
OPEN EXECUTE: S XMREC="R X#255:1"
CLOSE EXECUTE: W ! U IO::0) D ^XMAPHOST,READ^XMAPHOST S
X=$ZOS(2,"XM"_DUZ_".DAT") K XMIO Q
DESCRIPTION: Special Terminal Type used only for device: P-MESSAGE-HFS
```

Device: For operating from a Workstation running MSM or a VAX

```
NAME:      P-MESSAGE-HFS (MSM)          $I:      51
ASK DEVICE: YES                          ASK PARAMETERS: NO
FORCED QUEUING: NO
LOCATION OF TERMINAL: HFS (MSM) FILE => MESSAGE
LOCAL SYNONYM: MAIL MESSAGE              MARGIN WIDTH:      255
FORM FEED:  #                          PAGE LENGTH:       256
BACK SPACE: $C(8)                       OPEN PARAMETERS: ("XM"_DUZ_".DAT": "M")
SUBTYPE:    P-MESSAGE-HFS                TYPE:      HOST FILE SERVER
```

The Terminal Type and Device described below permits printing to mail messages on a VAX using a DHCP terminal.

Terminal Type: VAX only

```
NAME:      P-MESSAGE-HFS                RIGHT MARGIN:      255
FORM FEED:  #                          PAGE LENGTH:       256
BACK SPACE: $C(8)
CLOSE EXECUTE: W ! S XMREC="R X#255:1" U IO:DISCONNECT D
^XMAPHOST,READ^XMAPHOST K XMIO Q
DESCRIPTION: Special Terminal Type used only for P-MESSAGE-HFS device.
```

Appendix XIII--P-Message Device Set-up

Device: VAX only

```
NAME:      P-MESSAGE-HFS          $I:  XMHFS.DAT
ASK DEVICE: YES                   ASK PARAMETERS: NO
FORCED QUEUING: NO                LOCATION OF TERMINAL:HFS FILE =>MESSAGE
LOCAL SYNONYM: MAIL MESSAGE      MARGIN WIDTH: 256
FORM FEED:  #                     PAGE LENGTH: 256
BACK SPACE: $C(8)                 SUBTYPE: P-MESSAGE-HFS
TYPE:      HOST FILE SERVER
```

Appendix XIV -- Intercepting Twix From the PCTS System

Overview

PCTS System Set-up and Use

Personal Computer Terminal System (PCTS) allows direct, immediate communications between VA Central Office (VACO) and field stations, including medical centers, ISCs, and other facilities. PCTS is usually set up so that communications come in to the facility and are immediately printed. They are sent out from the facility similarly arriving elsewhere. A 486 PC is normally used for this purpose and it runs software that is used exclusively for this purpose.

A large number of users can be supported with such a powerful machine but the printed word is not as efficiently distributed as electronic mail. MailMan V. 7.1 allows a MUMPS System running MailMan to intercept this communication data and put it into mail messages. Conversely, messages may be routed into the PCTS system simply by addressing them to a user at the VHA.DMIA domain (which is a dummy name) exclusively set up for this purpose. Now the extra PC can be used more effectively and efficiently while a very small load is placed on a node of the DHCP System.

How the DHCP PCTS Twix Interceptor Works

There are two parts to MailMan that allow DHCP to send and receive Twixs.

- The XM option guides the user through the process of constructing an appropriately formatted mail message.
- A Sender/Receiver is queued from TaskMan to run periodically (half hour to every hour).

This XM option guides the user through the process of constructing an appropriately formatted mail message in a structured format. The Sender will be able to use this structured format to extract data fields that are needed when it sends the message (the Twix). The user of this option must be somewhat familiar with the terminology and values of the data fields that are requested, such as the Destination RI (routing indicator) and Destination to Line fields.

The Receiver functions by continuously running a process that looks for data coming down the line to it. When data is detected, the line is opened and each Protocol Data Unit (PDU) is interpreted, and messages are exchanged.

The Sender is invoked by the Receiver when it receives a PDU that indicates that the other side is ready to receive data. When this occurs, the Sender checks the queue for the VAH.DMIA domain. If any messages are in the queue for the VHA.DMIA domain, those messages are transmitted.

Set-Up Instructions

The overview of the set-up is as follows:

- Set up domain VHA.DMIA
- Make sure that domain VHA.DMIA contains correct local routing indicator in the domain transmission script
- In routine XMRPCTS1, line 6, change XXXX to the local routing indicator for your site
- In routine XMRPCTS1, line 7, change YYYY to your site name
- Set up option for transmitting queue and schedule it to run periodically
- Set up option for users to send a Twix
- Start receiver (add to start up procedure)

Setting Up Domain VHA.DMIA

Substitute your own PCTS routing indicator for "RUCHxxx" in the TEXT of the script below. For example, the routing indicator for a site might be ROUTING1. Thus, the line you would substitute for X W "PCTS RUCHxxx",! would be X W "PCTS ROUTING1",!.

```
NAME: VHA.DMIA          FLAGS: Q          PHYSICAL LINK DEVICE: MINIOUT
TRANSMISSION SCRIPT: CONNECT
  TYPE: Simple Mail Transfer Protocol
  PHYSICAL LINK / DEVICE: MINIOUT
  NETWORK ADDRESS (MAILMAN HOST): VHA.DMIA
  TEXT:
    O H=VHA.DMIA,P=SCP
    C MINI
    L ogin:
    S pcts
    L CODE:
    X W "PCTS RUCHxxx",!
    X S XMRPCTSO=XMCI+1
    X D ^XMRPCTS
    X K XMRPCTSO
  NOTES:
```

This script is used to connect up to the PCTS system to send and receive messages.

NETWORK NOTES:
This domain is used for PCTS communications.

Schedule Option for Transmitting Queue to Run Periodically

The option that you queue to run periodically to transmit Twixs should schedule it to run every 1/2 hour or every hour. This option's name is XMNET-TWIX-TRANSMIT.

Option for Users to Use to Send a Twix

This option is released with MailMan but it is not placed on anyone's menu. That is up to the site manager to do for employees that he thinks should have this capability. If the ability is for site management, you should put it on the XMMGR menu. It is named XMNET-TWIX-SEND.

Glossary

Banner

A line of text with a user's name and domain, which is displayed to everyone who sends mail to the user.

BSCP

(Block Mode Simple Communications Protocol), a procedure used for message transmission with error checking.

Bulletin

A form letter often triggered by a FileMan field.

Checksum

The result of a mathematical computation involving the individual characters of a routine or file.

Cross-reference

A cross-reference on a file provides direct access to the entries in several ways. For example, the Patient file is cross-referenced by name, social security number, and bed number. When asked for a patient, the user may then respond with either the patient's name, social security number, or bed number. Using cross-references speeds up access to the file for printing reports. A cross-reference is also referred to as an index or cross index.

Data Dictionary

A Data Dictionary (DD) contains the definitions of a file's elements (fields or data attributes); relationships to other files; and structure or design. Users generally review the definitions of a file's elements or data attributes; programmers review the definitions of a file's internal structure.

Data Dictionary Access

A user's authorization to write/update/edit the data definition for a computer file, also known as DD Access.

Default

A response the computer considers the most probable answer to the prompt being given. It is identified by double slash marks (//) immediately following it. This allows you the option of accepting the default answer or entering your own answer. To accept the default, you simply press the enter (or return) key. To change the default answer, type in your response.

Delete

The key on your keyboard (may also be called **rubout** or **backspace** on some terminals) which allows you to delete individual characters working backwards by placing the **cursor** immediately after the last character of the string of characters you wish to delete. The @ sign (the "shift-2" key) may also be used to delete a file entry or data attribute value. The computer will ask "Are you sure you want to delete this entry?" to insure you do not delete an entry by mistake.

Device

A terminal, printer, modem, or other type of hardware or equipment associated with a computer. A host file of an underlying operating system may be treated like a device in that it may be written to (e.g., for spooling).

DHCP

The **D**ecentralized **H**ospital **C**omputer **P**rogram of the Veterans Health Administration (VHA), Department of Veterans Affairs (VA). DHCP software, developed by the VA, is used to support clinical and administrative functions at VA medical centers nationwide. It is written in MUMPS and, via the Kernel, will run on all major MUMPS implementations regardless of vendor. DHCP is composed of packages that conform with namespacing and other DHCP standards and conventions.

Domain

A site for sending and receiving mail.

Enter

Pressing the return or enter key tells the computer to execute your instruction or command or to store the information you just entered.

Free Text

The use of any combination of numbers, letters, and symbols when entering data.

Help Prompt

The brief help that is available at the field level when entering one or more question marks.

IDCU

Integrated **D**ata **C**ommunications **U**tility

Initialization

The process of setting variables in a program to their starting value.

Input Transform

An executable string of MUMPS code that is used to check the validity of input and converts it into an internal form for storage.

IRM

Information **R**esource **M**anagement

ISC

Information Systems Center

Keyword

A reference name that calls a help frame when entered at a message prompt.

Kernel

A set of DHCP software routines that function as an intermediary between the host operating system and the DHCP application packages such as Laboratory, Pharmacy, IFCAP, etc. The Kernel provides a standard and consistent user and programmer interface between application packages and the underlying MUMPS implementation. Two Kernel components, VA FileMan and MailMan, are self-contained to the extent that they may stand alone as verified packages. Some of the Kernel components are listed below along with their associated namespace assignments:

VA FileMan	DI
MailMan	XM
Sign-on/Security	XU
Menu Management	XQ
Tools	XT
Device Handling	ZIS
Task Management	ZTM

Key

A security code that is assigned to individual users that allows access to options.

Line Editor

This is VA FileMan's special line-oriented text editor. This editor is used for the word-processing data type.

Local

The system that a user is currently signed on to.

Log In/On

The process of gaining access to a computer system.

Log Out/Off

The process of exiting from a computer system.

Mail Basket

Mail baskets provide a way of saving messages in a sorted fashion similar to a filing system. Mail baskets are created at the "Message action" prompt by typing in "S" to save, then the name you wish to call the basket. If the basket already exists, the message will be sent to it. If the basket does not exist, you will be asked if you want it created. Placing a message in a mail basket other than the IN or Waste baskets protects the message from being automatically purged when the IN BASKET PURGE is run.

Menu

A list of options you are authorized access to and may select from.

Menu Tree

A series of menus you sequence through in order to get to the specific option you desire.

Message-ID

A message identifier that shows the time of transmission, the message number and the domain name of the message.

Modem

A device for connecting a terminal to a telephone line, allowing it to communicate with another modem. Modems include the following types.

<i>Direct Connect</i>	The modem is directly hooked into the phone line.
<i>Acoustic</i>	The modem is connected to the telephone through the handset.
<i>Auto Answer</i>	When it detects a ring signal, the modem will "answer the phone."
<i>Auto Dial</i>	The modem, upon command from the terminal or the computer, will dial another modem.

MultiMedia Mail

MultiMedia Mail gives the capability of attaching Binary Large Objects (BLOBs) to electronic messages so that images, spreadsheets, graphs, and other operating system files that are not pure ASCII text, may be sent and received either locally or across the network.

Namespacing

A convention for naming DHCP package elements. The DBA assigns unique character strings for package developers to use in naming routines, options, and other package elements so that packages may coexist. The DBA also assigns a separate range of file numbers to each package.

On-Line

A device is on-line when it is connected to the computer.

On-The-Fly

A term given to the process of not permanently storing data in the data dictionary but having a computation performed at run time.

Password

A user's secret sequence of keyboard characters, which must be entered at the beginning of each computer session to provide the user's identity.

Physical Link Device

Hardware used to establish outgoing communication.

'Playing a Script'

A method of opening a transmission link for a message, used to force message transmission of message and testing.

Pointer

Points to another file where the computer stores information needed for the field of the file in which you are currently working. If you change any of the information in the field in which you are working, the new information is automatically entered into the "pointed to" file.

Poller

An option that opens the transmission line to all domains with "P" in the Flags field.

Postmaster

The basket where message queues are stored. Also, the person who manages this basket for a particular site.

Prompt

The computer interacts with the user by issuing questions called **prompts**, to which the user issues a response.

Protocol

Code containing logic for opening and closing links, and for sending/receiving transmissions.

Purge

A procedure used to delete messages or message pointers.

Queue

A list that stores messages destined for a given domain.

Read Access

A user's authorization to read information stored in a computer file.

Remote

Any system that a user is not signed on to.

Routine

A program or a sequence of instructions called by a program, that may have some general or frequent use. MUMPS routines are groups of program lines that are saved, loaded, and called as a single unit via a specific name.

SACC

Standards and Conventions Committee of the Decentralized Hospital Computer Program.

Screen Editor

This is VA FileMan's special screen-oriented text editor. This editor is used for the word-processing data type.

Script

A set of MailMan commands and transmission scripts to a remote domain in the domain file.

Server

An automatic mail reader for internal messages.

System Manager/IRM Chief

At each site, the individual who is responsible for managing computer systems, installing and maintaining new modules, and serving as liaison to the ISCs.

SMTP (Simple Mail Transport Protocol)

The primary transport protocol for MailMan

Surrogate

A person who reads and/or sends mail in another user's name.

Transmission Script

List of commands for directing a message stored in the transmission script field.

Trigger

A trigger is an instruction that initiates a procedure. In VA FileMan, a trigger can be set up when data entry in one field auto-updates a second field value.

Up-Arrow

A character on your keyboard that looks like this: ^. The ^ character is used mainly for exiting or opting out answering VA FileMan prompts and jumping to other fields in VA FileMan. The ^ character is the "shift-6" key on most keyboards.

User Access

Access to a computer system. The user's access level determines the degree of computer use and the types of computer programs available. The systems manager assigns the user an access level. (See also **access code** and **programmer access code**.)

VA FileMan

(also called VA FileManager)

A set of programs used to enter, maintain, access, and manipulate a database management system consisting of files. A package of on-line computer routines written in the MUMPS language that can be used as a stand-alone database system or as a set of application utilities. In either form, such routines can be used to define, enter, edit, and retrieve information from a set of computer-stored files.

Validation Number

A security check number that must be in the domains of both the sending and receiving sites.

Verify Code

An additional security precaution used in conjunction with the access code. Like the access code, it is also 6 to 20 characters in length and if entered incorrectly will not allow the user to access the computer. To protect the user, both codes are invisible on the terminal screen.

Wrap-Around Mode

Text that is fit into available column positions and automatically wraps to the next line, sometimes by splitting at word boundaries (spaces).

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U.S. Department of Veterans Affairs
Decentralized Hospital Computer Program

**VA ELECTRONIC MAIL SYSTEM
(MAILMAN)
TECHNICAL MANUAL
AND
SYSTEMS MANAGEMENT GUIDE**

Version 7.1

June 1994

Information Systems Center
Washington, DC

Preface

This technical manual will acquaint the system manager with the utilities, software structure and functionality of the MailMan system modules. Additional information on installation, security, management features, enhancements and other requirements is also included.

MailMan is a form of electronic communication among users sharing computing facilities. A communications link can be made with cables, telephone lines, or satellite connections. In this manner, the networking of electronic mail on a large scale is made possible.

MailMan is designed to allow users to send and receive mail from individuals or groups. A message can take the form of a personal letter or a formal bulletin extracting data from FileMan. The text of messages is not difficult to edit, and the context can be made confidential in several ways. Surrogates may be appointed to read mail. Mail groups may be set up to allow each member to respond to a message and to view the replies, as in an informal committee meeting. Mail may be sorted, deleted, forwarded, queried, copied, revised, or printed. In addition, MailMan cross-references messages by subject, message number, sender, and date.

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